DOCUMENT RESUME

ED 413 826 HE 030 729

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TITLE	Music and the Liberal Arts. Final Report [and] Second Evaluation of Outcomes of the Course: Music and the Liberal Arts.
INSTITUTION	Heidelberg Coll., Tiffin, OH.
SPONS AGENCY	Fund for the Improvement of Postsecondary Education (ED), Washington, DC.
PUB DATE	1997-07-00
NOTE	98p.
CONTRACT	P116B30544-95
PUB TYPE	Reports - Evaluative (142)
EDRS PRICE	MF01/PC04 Plus Postage.
DESCRIPTORS	Art Education; *College Curriculum; *Course Content; Curriculum Evaluation; Higher Education; Humanities; Instructional Materials; *Interdisciplinary Approach; Introductory Courses; *Music Appreciation; *Music Education; Natural Sciences; Social Studies; Statistical Data; Surveys; Teacher Collaboration; Undergraduate Study

ABSTRACT

This final report and separate evaluation report describe activities and accomplishments of a 45-month project at Heidelberg College (Ohio), to develop and evaluate an undergraduate course for nonmusic majors which integrates music with a variety of other disciplines. The course's emphasis was on the relationship of music to the larger society. Seventeen disciplines in the humanities, social sciences, natural sciences and the arts were selected. A faculty member from each discipline worked with the project director to produce 73 class presentations, which were collected into a teaching resource. After an executive summary, individual sections of this report describe the project's purpose, background and origins, overall design, evaluation/results, and conclusions. The evaluation report is based on survey responses received from the course's eight students and evaluation of their written responses. It concludes that the course is fulfilling nearly all the purposes for which it was designed. A detailed statistical analysis comprises much of the evaluation report. (DB)

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ED 413 826

Final Report to FIPSE
for Music and the Liberal Arts
July, 1997

Grantee Organization:

Heidelberg College
Department of Music
310 E. Market Street
Tiffin, Ohio 44883

Grant Number:

P116B30544-95

Project Dates:

Starting Date: October 1, 1993
Ending Date: June 30, 1997
Number of Months: 45 months

Project Director:

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HE 030 729

FIPSE Program Officers:

Preston Forbes
Charles Storrey

Grant Award:

Year 1	$21,010
Year 2	$18,335
Year 3	$5, 558
Total	$44,903

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Music and the Liberal Arts

As composers are substantially influenced in musical composition by the scientific, technological, political, and sociological facets of culture, so listeners are similarly affected by these cultural dimensions. Music and the Liberal Arts examines the interactive relationship between music and various disciplines within the natural sciences, social sciences, arts and humanities. Topics from seventeen academic disciplines were selected and a faculty member from each discipline worked in collaboration with the project director from music to produce 73 class presentations. These lessons have been compiled and edited in a teaching resource entitled, *Music and the Liberal Arts: An Instructor's Resource*.

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Music and the Liberal Arts: An Instructor's Resource

Executive Summary

Music and the Liberal Arts

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Project Overview

There are numerous ways to approach the teaching of music to undergraduate general studies students, and many college and university music departments have attracted students through repertoire-based courses, such as the history of rock music, American music, study of jazz, etc. Few offer a view of music from a broader base that is also a part of the student's experience.

In this project a variety of disciplines in the liberal arts forms the framework to explore the ways in which music and a particular discipline works in symbiotic relationship. What better way to reach college students about the omnipresence of music in society than through the academic disciplines to which they have been exposed for many years? Music and the Liberal Arts is an interdisciplinary course in which topics from a variety of disciplines are examined in relation to music. More specifically, 17 disciplines in the humanities, social sciences, natural sciences and the arts were selected.. A faculty member from each discipline worked in collaboration with the project director from music to produce 73 class presentations which were written and compiled in a teaching resource entitled, *Music and the Liberal Arts: An Instructor's Resource.*

Purpose

Educators are faced daily with the challenge of meeting the students where they are, and moving in a direction that is intellectually and emotionally stimulating. Students of this time are more grounded in the commercial and recreational venues of music than in the participation opportunities of school music ensembles and individual music lessons. This project created a series of musical experiences which offered the following: teaching of music using the familiar as a point of departure; interactive and interdisciplinary pedagogy; and opportunity for in-depth study.

During the development of this project, I became aware that some realities needed to be addressed. First, students have a limited tolerance of the number of instructors with whom they can successfully relate in a single course. Second, the students need to have an in-depth experience at some point. I responded to these insights by addressing the "rhythm" of the semester. Guest lecturers are usually limited to four, although the topics covered may be extended to a total of six or seven. Student projects have continued to be a successful means of focusing the student's attention on one area for a period of time and each semester have received high praise from the students. There have been some memorable student projects in this class, none being more energetic that two Health and Physical Education majors who investigated the use of music in sports as a motivational tool.

Background and Origins

Heidelberg College was a particularly suitable place for the development of this resource. The faculty are generally very collegial and support a broad-base liberal arts approach. Interdisciplinary courses are a regular part of course offerings, with some seated in the curriculum for over 40 years while others have a shorter life cycle according to faculty interests.

The course that I envisioned at the beginning involved six to eight faculty in the first year, with additional projects and faculty added in subsequent years. Because this would require a substantial amount of time for development, I was reluctant to allocate time in my schedule until full support was assured by administration and appropriate faculty. The proposal was well supported by the Vice President for Academic Affairs, Music Department Chair, Music Faculty, and the Education Policies Committee. In the end, it was unanimously passed by the entire college faculty and qualified as a general studies core offering.

Project Description

In Music and the Liberal Arts students examine a largely unfamiliar body of music from the more familiar perspective of their major (and other disciplines they have been studying in high school and college) in order to understand the scope and characteristics of music as an art form. The goals of the project are threefold:

a) To understand society's influence on the composer/performer in the creation of a musical composition.

b) To understand the ways in which music can be used to influence, persuade, or manipulate society.

c) To understand the role of art as a collective conscience, commenting on the substance of a culture to which it relates.

As a result of this course it is expected that the students will examine the relationship of the musician and society, will enlarge their experience of the treasure-house of the world's musics and the highly diverse reasons for its composition, and will approach a musical composition as a potential mirror of its times.

The original plan was to create a three semester-hour course which would be divided into modules, each exploring music as related to a particular discipline in the liberal arts. The disciplines selected for a single semester would represent natural sciences, social sciences, art and humanities. A guest lecturer from the appropriate department would present a maximum of three lectures on a topic related to his/her discipline and music. I would spend an equivalent amount of class time exploring selected repertoire or musical techniques related to the same discipline. In the end, material for about three semesters was created, thereby allowing a rotation of topics each time the course is offered.

Evaluation/Project Results

On an anecdotal level, comments from individuals involved in the project have been positive. Faculty welcomed the opportunity to teach concepts that were outside their regular course material. Students reacted positively to the interdisciplinary design. Some of the comments included: "This course changed my life;" "Because of this class I now see connectons in others areas too;" "I would recommend this course to anyone with an open mind or a mind that needs opening!"

A project can have a rippling effect through a community and that seems to have happened at Heidelberg. While this project was in process, the faculty developed a new Honors Program. Since many faculty involved in this effort had recently reviewed the Music and the Liberal Arts proposal, it was still in their consciousness. I learned later from Honors Committee members that the Music and the Liberal Arts course became the model for the design of the core honors seminars.

In a statistical evaluation, Dr. Charles E. Moon noted that "(s)tudents in the Music and the Liberal Arts class exhibited a greater perceived level of: (a) familiarity with the major musical styles (in addition to popular music) of European/American culture; (b) familiarity with the major musical styles from Asian, African, or Native American cultures; (c) identification of the ways in which characteristics of culture can affect the creation of music; (d) understanding of the ways in which music can be used to influence or manipulate others; (e) providing examples of linkages between music and the natural sciences, social sciences, and the humanities; (f) understanding of the differences in musical style as represented in the Baroque, Classic and Romantic periods; and (g) understanding of compositional techniques employed by composers in the writing of music, by the end of the course relative to the beginning of the course." In summary he noted that "based on the evidence from the students' perceptions, the Music and the Liberal Arts course is fulfilling nearly all of the purposes for which it was designed."

Summary and Conclusions

This project was an outgrowth of the expansive thinking of the College Music Society's summer institutes. This organization espouses the notion that music is generally taught from a perspective that is too narrow and too elitist. Such course formats never come to grips with some of the more global and human characteristics of music—a real loss since most students enrolled in music classes (regardless of major) come into regular contact with music, both consciously and unconsciously.

After surviving the pressures and frustrations, and reveling in the moments of glory, I offer the following observations. First, Music and the Liberal Arts changes the way individuals can think about music in society. It has no closure; instead it plants seeds in the minds of students for germination when they are ready. Second, the course needs to be reined in for purposes of the instructor's sanity and yet retain the variety that the students appreciate. Third, evaluation procedures of student's work needs further refinement. Multiple means of evaluation have been included which was an improvement from the first time it was offered, but even more imaginative techniques are possible. Fourth, the course is perceived by outsiders as being most effective with the talented student. From experience with a variety of student ages from high school to seniors in college and with a range of abilities from average to gifted honors students, this course works best for the student who is open to new ideas. Age and ability do not appear to be defining factors to its effectiveness.

Final Report

Project Overview

As an educator who has had the privilege of teaching of wide variety of courses, I have repeatedly experimented with course content and teaching methodology in an effort to capture the dynamism of music. My efforts in traditional music appreciation courses have moved from the chronological study of largely European/American music, a particularly frustrating structure, to the more accommodating and free-form topic organization. While the traditional canon of western music will always be the music to which I most closely relate, the study of such masterpieces does not even brush against the most fascinating and penetrating question of all: why is music a thread common to the fabric of virtually every culture?

Teaching music to the general studies student is one of my passions and I have searched for ways to revitalize the curricular offerings. I believe that the study of the interrelationship of culture and music is a rewarding one. However, it is best reserved for those educators who have had thorough grounding in ethnomusicology. In my effort to revitalize curriculum, I chose instead to explore the ways in which music becomes a *different* type of thread weaving through a culture.

Using a variety of disciplines in the liberal arts as a framework, the objective was to explore the ways in which music and a particular discipline worked in symbiotic relationship. What better way to reach college students about the omnipresence of music than through the academic disciplines to which they have been exposed for many years? Music and the Liberal Arts is an interdisciplinary course in which topics from a variety of disciplines are examined in relation to music. More specifically, seventeen disciplines in the humanities, social sciences, natural sciences and the arts were selected. In concert with faculty from each discipline, topics related to music were shaped and developed into 73 class presentations. The entire effort involved 20 faculty, most of whom were part of the

Heidelberg faculty and, therefore, insuring that the life of the project would extend beyond the terms of the grant. All class lessons were finalized in written form and compiled into a book entitled, *Music and the Liberal Arts: An Instructor's Resource.*

This project proved to be a stimulating one for many on this campus. When tentatively solicited to participate in this project, I was continually surprised at not only the willingness of the faculty to develop a particular topic, but the unbridled enthusiasm of many for the opportunity to teach a concept which is not touched in their usual routine of teaching. Likewise, students, brave enough to take the course, appeared fascinated by the connections we were weaving between music and other disciplines. In fact, the greatest enthusiasts felt that such a course should be a part of every major. As a musician, I felt that music was a unique vehicle for such a study. In time and after conversation with educators in other disciplines, I have come to accept that this idea has more applications than I ever dreamed. For example, when I presented this project to members of the College Music Society as a part of "Curriculum in the Nineties", a chemistry professor spoke to me afterwards expressing strong support for my idea. She indicated that she had considered for some time the possibility of a similar approach to the teaching of chemistry, and the Music and the Liberal Arts project convinced her to do it.

Purpose

What basic concepts should all general studies students know about music? The problem is that music educators have answered this question by designing courses that are repertoire based. Thus, no matter what particulars are used, music appreciation courses typically look pretty much alike. While general studies music courses are similar in most colleges and universities and thereby appear to be in a rut, the task was not to blow up the traditional, but to *complement* it with an alternative study using differing perspectives and content. The result is a series of class experiences which, when compared to a music

appreciation class, offer the following: interactive and interdisciplinary pedagogy; little chance of duplication of repertoire used; teaching of music using the familiar as a point of departure; and, providing an opportunity for in-depth study .

During the three years of this project my assessment of the inherent flaws or lack of imagination in the teaching of music did not change. However, I did become aware that three realities needed to be addressed. First, students have a limited tolerance of the number of instructors with whom they can successfully relate in a single course. The first time I offered the class I was gung ho and included eight instructors plus myself. Observing that the class felt unusually frenetic by the guests continually entering through an imaginary revolving door, the next time it was offered I limited the guest lecturers to four . Each time the class and I discussed the "problem" of multiple guests and whether the content was simply an overkill. The students protested vehemently that my concern was unfounded. They would rather deal with the variety than be limited to a few areas. The risk for them was being stuck for an extended period with a topic they did not enjoy.

Second, the students need to have an in-depth experience at some point. The initial class which included a sweeping tour of seven disciplines created the typical tourist reaction, "If its Tuesday, it must be Belgium." Therefore, student projects were a major component of the course to address this concern. Students selected a topic related to their major or primary area of interest and explored ways in which music related to it. Their findings could be submitted in a variety of forms, but mostly the students wrote a paper. In addition, each student presented to the class an oral report summarizing their work. At the end of the semester students rated the projects as one of the most important components of the class. From the instructor's perspective, I found the projects were carried out by students with varying depths and a mixed level of commitment. One stellar honors student who was not a music major used the topic from his project in this class, and amplified it for his final senior honors project the following year. Even though he was an elementary education major, he asked me to work with him as his advisor. After my experience with

teaching the course, I still believe more depth is needed. I plan to include a three-week immersion topic in which one musical work is probed from a variety of academic disciplines.

Finally, faculty involved in the development of the class presentations felt isolated in the project. Some expressed to the FIPSE program officer that they would have appreciated getting together to share ideas and get some assurance that they were proceeding in an appropriate direction. Although as project director I met with them several times and reinforced each discussion with printed information, some would have welcomed the collegiality. At that time, I did not take this approach for several reasons. Since each topic developed was very different and the ways in which music would spin off from it varied enormously, I felt that group meetings would have inhibited creativity rather than nurtured it. Also, before the first year began I gathered the eight faculty who were to participate that year in an hour-long meeting. The attitudes were less than positive. Some came late, others did not show, some sat with strained expressions, and one or two friends tried to give valiant support. It was evident that these busy faculty members did not need still another meeting on their full schedules. From that moment on, I resolved to work with them on a one to one basis, even though it would require much more time on my part. Now in retrospect, perhaps I should have had some informal conversations with coffee just to stimulate the creative process.

Background and Origins

An interdisciplinary course is most successfully developed and implemented in an atmosphere that supports this style of learning and by a faculty that works well together. Heidelberg College seemed a most suitable place for this to happen. Heidelberg College is a liberal arts college with a strong music department whose tradition is more than a century old. Interdisciplinary courses are a regular part of course offerings, with Literature and

Fine Arts having been offered for more than 40 years. Other interdisciplinary efforts pop up from time to time as faculty experiment with new topics or more refreshing approaches to learning. The professors at this college are especially collegial and readily respond to the opportunity of working together.

In spite of the innovation that has occurred in the overall college curriculum, the music courses offered to general studies students have been firmly entrenched. In the general studies core students may choose from a number of courses for each area requirement. Music is one of the few areas which offers only one choice: Understanding and Enjoying Music. Most of the music faculty have taught this class at one time or other, but at present it is taught mostly by junior or adjunct faculty. In the last decade there is an occasional comment at department meetings that other options should be offered, such as Music by American Composers. Whether it was the already heavy class loads on faculty or a rather conservative outlook toward education, no faculty member has ever attempted a new course design—that is, not until the Music and Liberal Arts course was proposed.

The course that I envisioned at the beginning involved six to eight faculty in the first year, with additional projects and faculty added in subsequent years. Considering the time commitment invested, I was reluctant to spend any time unless I was assured that the course would have a life in the curriculum beyond the first semester offered. To pave the way for approval on a broader basis and to sanction my conversations with a number of faculty from a variety of disciplines, I took my proposal first to the Vice President for Academic Affairs. With his approval, I moved on to the Music Department Chair who in turn thought it was an excellent idea and would enrich the music curriculum. After talking to four or five faculty in the college and developing a more substantial proposal, I presented it to the Music Department faculty. Many supported it without reservation; others, principally those who taught the music appreciation course, were either reserved about its usefulness or antagonistic to it because of the competition it would generate against music appreciation classes. In the end, the department approved the proposal and I moved on to

the Educational Policies Committee in the college. This very critical and cautious body applauded the concept and not only passed it as a course, but also recommended that it be included as one of the options for the general studies core. It was taken to the general faculty for vote, and passed unanimously. Therefore, before this project was submitted to FIPSE, I had the enthusiastic endorsement of almost every individual who had reviewed it.

Project Description

Music and the Liberal Arts is unique. Students examine a largely unfamiliar body of music from the more familiar perspective of their major (and other disciplines they have been studying in high school and college) in order to understand the scope and characteristics of music as an art form. The goals of the project are threefold:

a) To understand society's influence on the composer/performer in the creation of a musical composition.

b) To understand the ways in which music can be used to influence, persuade, or manipulate society.

c) To understand the role of art as a collective conscience, commenting on the substance of a culture to which it relates.

As a result of this course it is expected that the students will examine the relationship of the musician and society, will enlarge their experience of the treasure-house of the world's musics and the highly diverse reasons for their composition, and will approach a musical composition as a potential mirror of its times.

Certain assumptions are implicit to the design of the course and should be noted. First, the music studied represents a wide variety of repertoires. It is my conviction that the ability to discriminate between well-written and poorly-written music is not acquired through limited experience or judgmental dictums. Rather, the student may arrive at the conclusions independently if exposure is broad enough and comparisons convincing

enough. Thus, the selection of repertoire was selected from a broad spectrum of musical styles and objectives. Second, considering the rapidly changing political and social conditions of our world, the ethnocentrist point of view is myopic. Few composers live or have lived an insular life unaffected by their surroundings. Rather, they related their music to the life-situations which affected them, and in some cases did so most profoundly. Travel for a more enriched view of the world was not uncommon and fueled the composers with useful ideas. Therefore, it was educationally responsible and musically enriching to include a variety of music with a global perspective.

The original plan was to create a three semester-hour course which would be divided into modules, each exploring music as related to a particular discipline in the liberal arts. The disciplines selected for a single semester would represent natural sciences, social sciences, art and humanities. A guest lecturer from the appropriate department would present a maximum of three lectures on a topic related to his/her discipline and music. The project director would spend an equivalent amount of class time exploring selected repertoire or techniques in music related to the same discipline.

To provide for a rotation of topics and to enhance its adaptability to other campuses, the course was originally to be developed in two versions with a different set of topics for each. In the end, the project was expanded to include a third version, or at least included sufficient material to cover a three-semester course without repetition. The disciplines included in the study are: Anthropology, Art, Biology, Business, Communication, Dance, Drama, English (Poetry), English (Fiction), German, Health Science, History, Physics, Political Science, Psychology, Ethnomusicology, Technology, and Music. The topics related to each discipline were collaboratively agreed upon by the guest lecturer and project director.

Evaluation/Project Results

This has been an experience to remember. On an anecdotal level, comments from the individuals involved have been largely positive. Faculty who served as guest lecturers welcomed the opportunity to teach material that was outside the realm of their regular course syllabi. The faculty who were selected for this project were particularly attuned to the arts and many are regularly involved in musical activities for personal recreation. Thus many instructors were role models to the general studies students who could see professionals from disciplines outside of music gaining great satisfaction from the arts.

Students enrolled in the course offered unsolicited reactions which also were largely positive. Comments said directly to me were expectantly positive and did much to reinforce my ego. Students also expressed opinions to other faculty which were passed on to me. Some of the comments were: "This course changed my life;" "I now see music very differently;" "Because of this class I now see connections in other areas too;" "This class offers much to one who is not a music major;" "Now I know why musicians should study other academic areas—it's all interrelated;" and "I would recommend this course to anyone with an open mind or a mind that needs opening!"

Generally, students responded very positively to the interdisciplinary design. Some noted that, because the course was crammed full, they felt as though they were going through the semester with their hair swept straight back from the speed of it all. Yet no student at any time felt as though the content should be scaled back. They agreed that the message was in the variety of disciplines and in the balance among the humanities, social sciences, and natural sciences.

During the two years that the Music and the Liberal Arts project was reviewed at Heidelberg and the three years or more of grant support from FIPSE, Heidelberg was developing a new Honors program. The Music and the Liberal Arts proposal had been recently reviewed and approved by the curriculum committee and, therefore, was in the consciousness of many faculty who were serving on the honors committee. I learned

sometime later from committee members that the Music and the Liberal Arts course became the model for development of new honors seminars. Sometimes it is surprising what effect a particular idea can have on others.

While anecdotal evaluations may be the most fun to read, statistical evaluation may be more convincing. I was fortunate that Dr. Charles E. Moon, Dean of Graduate Studies at Heidelberg and well-trained in statistical measurements, agreed to perform evaluations in two different years. (The complete report is included in a separate binding.) The following is a cursory summary of Dr. Moon's extensive report.

> This second evaluation of Music and the Liberal Arts (MLA) is again based on the goals and objectives of the project. The Music and Liberal Arts Student Survey is the assessment instrument that provides the data on the extent to which the goals and objectives have been achieved. The Evaluation Instrument: 1996 measures the attainment of cognitive outcomes.
>
> The Music and Liberal Arts Student Survey was given at the beginning and at the end of the semester. The questionnaire contains 12 items, each item having a 5-point scale (1=none, 2, 3=moderate, 4, 5=extensive). The instrument was also administered to the students enrolled in two sections of the traditional music appreciation course, Music 149: Understanding and Enjoying Music (UEM) at the beginning and at the end of the semester.
>
> In addition, the Evaluation Instrument: 1996, an assessment of the extent to which the student in Music and the Liberal Arts acquired knowledge about music, was given as a pretest and posttest. The test consisted of 50 true-false, multiple-choice, and matching items. This particular instrument was not administered to the UEM classes (Moon, page 1). . .
>
> An item-by-item comparison between the MLA class (N=7) and the two UEM classes (n=24 for each) was carried out using the Kruskal-Wallace analysis of variance on the posttest survey ratings. The MLA class had a significantly higher ($p < .10$) mean rank than the UEM classes for items 5, 6, and 8, and a significantly higher mean rank than one of the UEM classes for items 3, 10, 11, and 12. There was no significant difference among the music classes for items 1, 2, 4, 7, and 9 ($p > .10$).
>
> Students in the Music and the Liberal Arts class exhibited a greater perceived level of: (a) familiarity with the major musical styles (in addition to popular music) of European/American culture; (b) familiarity with the major musical styles from Asian, African, or Native American cultures; (c) identification of the ways in which characteristics of culture can affect the creation of music; (d) understanding of the ways in which music can be used to influence or manipulate others; (e) providing examples of linkages between music and the natural sciences, social sciences, and the humanities;

> (f) understanding of the differences in musical style as represented in the Baroque, Classic and Romantic periods; and (g) understanding of compositional techniques employed by composers in the writing of music, by the end of the course relative to the beginning of the course (Moon, page 3). . .
>
> In summary, based on the evidence from the students' perceptions, the Music and the Liberal Arts course is fulfilling nearly all of the purposes for which it was designed. Of the 12 major goals, only two, ability to listen for specific musical characteristics in a piece of music and giving examples of the way in which events in a composer's life influenced the creation of a musical composition, appear not to have been met satisfactorally. The data support the conclusion that the other 10 goals have been accomplished by the Music and the Liberal Arts class (Moon, page 5).

The next step in the process is to find a publisher for *Music and the Liberal Arts: An Instructor's Resource.* While this type of resource is viewed in professional meetings as a trend-setter, the publishing industry is not exactly in that same place. I need to find a publisher who is willing to take a chance and work with materials that are outside the mainstream.

Summary and Conclusions

This project was an outgrowth of the expansive thinking of the College Music Society's summer institutes. This organization espouses the notion that music is generally taught from a perspective that is too narrow and too elitist. Such course formats never come to grips with some of the more global and human charactistics of music—a real loss since most students (regardless of major) enrolled in music classes come into regular contact with music, both consciously and unconsciously.

After living through the pressures and frustrations as well as reveling in the moments of glory of the last three years, I still believe that this is a viable approach to music teaching. It sows many seeds in the student's mind for later germination. It is unlikely that a student will continue to see music in society in the same way after the course than they did before, unless they simply did not buy into the concepts presented. From a

personal point of view, the material I have read has changed my view of music, and, as a musician, I will never be the same.

Those feelings aside, I am still haunted by the notion that the course needs to be reined in to a level of sanity. I believe it is too fast-paced and does not allow time for digestion. But when I bring up this point to the students at the end of the course, I am continually out-voted. Students are adamant that content of the course should not be reduced and should remain the same. Instead, their biggest complaint is with the evaluation procedures. One class suggested that tests were ineffective. Agreeing with their concerns, I changed the following year to a variety of measurements including tests, papers, and other assignments. That did not get rave reviews either, so I am brainstorming for still other solutions.

When I presented this project at the Annual Meeting of the College Music Society, the listeners questioned whether this had been designed for an honors-level student. I responded that it had been conceived for *any* general studies student, yet could include music majors since the listening material and topics discussed did not cross over the traditional music curriculum. During the testing period of the grant, I had the opportunity to present this course to two different populations: first, to an unrestricted general studies class which included high school students on a college options program; and second, to a class of predominantly honors students. I found the first group to be far more open to the free-wheeling content of the course than was the second group. The honors students appeared so grade conscious that they were inhibited in their reactions and not particularly adventuresome in the reading. For me, the heterogeneous class will always be the most responsive to teach.

Finally, when I originally conceived this project, long before FIPSE proposal was prepared, I intended that the materials would be developed over a period of at least five years with another two years to put them in written form. Because of the grant, I decided to telescope the project into three years so that all the faculty participating would receive some

remuneration for their efforts. The time pressures of this decision were enormous because of the need to work on three levels simultaneously: (a) to create the topics and develop the resources for future topics; (b) to edit the lessons written by other faculty; and (c) to write my own lessons. There were many times when I wished I could slow the process just to get some rumination time. However, on the flip side, I believe that the time pressure was probably a blessing in disguise in that it would have been unlikely that this pace could have been maintained for seven years as originally planned. So thank you, FIPSE, for being an effective motivator.

Appendix

Realistically, if FIPSE had not funded this proposal, Music and the Liberal Arts would not have been developed and refined to the level that it is. The primary assistance which FIPSE gave me in this project was to affirm the validity of the basic concept. Having the backing of an agency with the reputation of FIPSE causes people to take a second look at the ideas proposed. Soliciting faculty support on the Heidelberg campus to develop class presentations was not a problem and was going well before FIPSE entered the picture. But I learned early in the grant period that the faculty would not have bothered preparing the written lessons without the pressure of the grant. Off campus, a project underwritten by FIPSE catches attention. Consequently, I was able to capture presentation time on agendas of national meetings that under different circumstances would have been hard to get.

Music proposals seem to be somewhat rare at FIPSE and the projects I have seen in the program book are not especially imaginative. There are some clever thinkers in the musical world and they need to be encouraged to approach FIPSE for support. I have been an active recruiter for FIPSE, encouraging some bright educators in music and the arts to submit proposals. I think your support could make a difference in the way music is taught and valued in the college curriculum.

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Second Evaluation of Outcomes of the Course *Music and the Liberal Arts*

Charles E. Moon

Graduate Studies in Education

Heidelberg College

Tiffin, Ohio

SECOND EVALUATION OF OUTCOMES OF THE COURSE

"MUSIC AND THE LIBERAL ARTS"

Charles E. Moon
Graduate Studies in Education
Heidelberg College

The course, Music 252: Music and the Liberal Arts (MLA), was first offered as a general studies course for non-majors during the 2nd semester of 1993-94 academic year. It was evaluated during the summer of 1994. MLA was offered again during the 2nd semester of 1995-96 academic year. The course is interdisciplinary in that it focuses on the interactive relationship between music and each of several disciplines within the natural sciences, social sciences, arts and humanities. As such, students enrolled in the course were expected to develop a greater appreciation for music in the cultural contexts of science, technology, politics, and sociology. What follows is the second evaluation of Music and the Liberal Arts, a course funded by the Fund for the Improvement of Post secondary Education (FIPSE).

This second evaluation of MLA is again based on the goals and objectives of the project. The Music and the Liberal Arts Student Survey is the assessment instrument that provides the data on the extent to which the goals and objectives have been achieved. The Evaluation Instrument: 1996 measures the attainment of cognitive outcomes.

The Music and the Liberal Arts Student Survey was given at the beginning and at the end of the semester. The questionnaire contains 12 items, each item having a 5-point scale (1 = none, 2, 3 = moderate, 4, 5 = extensive). The instrument was also administered to the students enrolled in two sections of the traditional music appreciation course, Music 149: Understanding and Enjoying Music (UEM) at the beginning and at the end of the semester.

In addition, the Evaluation Instrument: 1996, an assessment of the extent to which the students in Music and the Liberal Arts acquired knowledge about music, was given as a pretest and a posttest. The test consisted of 50 true-false, multiple-choice, and matching items. This particular instrument was not administered to the UEM classes.

For the MLA course, there were 1 freshman, 3 sophomores, 1 junior, and 2 seniors. Their majors were: education (1), biology (1), music (2), business administration (1), English (1), and communication/theatre arts (1). There were complete data on the survey pretest, survey posttest, the achievement pretest and the achievement posttest for all 8 students. This course was taught by the Director of the FIPSE project.

One section of UEM had 14 freshmen, 3 sophomores, 2 juniors, and 2 seniors. Of the 24 students in this section, 3 did not indicate class. The other section of UEM had 19 freshmen and 2 sophomores. Of the 24 students in this section, 3 did not indicate class. Both sections of UEM had majors from the sciences, the humanities, business, and education. These sections were taught by two other members of the Music Department faculty. There were complete data for 23 of the 24 members of one section, and complete data for only 8 of the 24 members of the other section of UEM. Pretest items were not paired with posttest items for 16 students, so the Wilcoxon tests could only be conducted on 8 students for that section. However, all postsurvey items were used for the Kruskal-Wallace tests of the null hypothesis of no difference among the 3 music classes. (See Appendix A for the barcharts, frequency distributions, and summary statistics.)

The Wilcoxon Matched-Pairs Signed-Ranks Test was conducted for each pair of survey items (pre-post). For the MLA students, the postsurvey item ranks were significantly greater ($p < .10$)[a] than the presurvey item ranks, where 1 = none to 5 = extensive, for the following items:

1. Please rate your present level of familiarity with the major musical styles (in addition to popular music) of European/ American culture.
2. Please rate your present level of familiarity with the major musical styles from Asian, African, or Native American cultures.
3. Please rate the degree to which you could identify the ways in which characteristics of culture can affect the creation of music.
4. Please rate the degree to which you understand the ways in which music can be used to influence or manipulate others.
6. Please rate the degree to which you can provide examples of linkages between music and the natural sciences (such as physics, computer science, biology-anatomy).
7. Please rate the degree to which you can provide examples of linkages between music and the social sciences (such as psychology, sociology, anthropology, business, political science).
8. Please rate the degree to which you can provide examples of linkages between music and the humanities (such as English, communications, languages, arts, history).
10. Please rate the degree you understand the differences in musical style as represented in the Baroque, Classic and Romantic periods.
11. Please rate the degree to which you understand compositional techniques employed by composers in the writing of music.

There was no significant difference ($p > .10$) between the item ranks from the pretest and the posttest for the following items:

5. Please rate the degree to which you understand the relationships between music and your major (or most likely choice).
9. Please rate the degree to which you are able to listen for specific musical characteristics in a piece of music.
12. Please rate the degree to which you can give examples of the way in which events in a composer's life influenced the creation of a musical composition.

(See Appendix B for the details of the Wilcoxon results.)

[a]The significance criterion was .10 rather than the more common .05. The small sample size of the MLA class and the ordinal data were justification for a larger alpha to increase power, despite increasing the risk of a Type I error.

For one UEM section (n = 8 with complete data), the postsurvey item ranks were significantly greater ($p < .10$) than the presurvey item ranks for items 10, 11, and 12. For the other UEM section (n=23 with complete data), the postsurvey item ranks were significantly greater ($p < .10$) than the presurvey item ranks for items 1, 2, 3, 4, 7, 9, 10, 11, and 12. There were no other statistically significant differences ($p > .10$). (See p. 2 for the actual items; see Appendix B for these results.)

An item-by-item comparison between the MLA class (n = 7) and the two UEM classes (n = 24 for each) was carried out using the Kruskal-Wallace analysis of variance on the posttest survey ratings. The MLA class had a significantly higher ($p < .10$) mean rank than the UEM classes for items 5, 6, and 8, and a significantly higher mean rank than one of the UEM classes for items 3, 10, 11, and 12. There was no significant difference among the music classes for items 1, 2, 4, 7, and 9 ($p > .10$). (See p. 2 for the actual items; see Appendix C for these results.)

The mean (27.14) of the MLA class on the Evaluation Instrument: 1996 Posttest was significantly greater than the mean (19.57) of the class on the Evaluation Instrument: 1996 Pretest ($t = -4.31$, $df = 6$, $p < .01$). There was a significant increase in music achievement as measured by the Evaluation Instrument: 1996 from pretest to posttest for the MLA class. (See Appendix D for this result.)

A Quickie Rating Checklist: 1996 was also administered at the conclusion of the MLA course to find out the degree to which each student learned from the lectures, using a scale of 1 (learned zip), 2, 3 (neutral), 4, 5 (learned a lot) and enjoyed the lectures, using a scale of 1 (hated it), 2, 3 (neutral), 4, 5 (enjoyed it a lot). The lectures the students perceived to have learned the most from were: (a) student projects; (b) influence of text on music; (c) urbanization and the rise of virtuosity; (d) gamelan class rehearsal; and (e) parallels in musical structure. The lectures the students perceived to have learned the least from were: (a) unit papers; and (b) the enlightenment. The lectures the students rated as most enjoyable were: (a) music and drama; (b) gamelan class rehearsal; (c) influence of text on music; and (d) student projects. The lectures the students least enjoyed were: (a) unit papers; (b) composer as social critic; (c) Shostakovich: composer in a totalitarian regime; and (d) harmonic series and musical composition. "Most" was defined as a mean rating of 4.3 or higher. "Least" was defined as a mean rating of less than 3.5. (See Appendix E for these results.)

Students in the Music and the Liberal Arts class exhibited a greater perceived level of : (a) familiarity with the major musical styles (in addition to popular music) of European/American culture; (b) familiarity with the major musical styles from Asian, African, or Native American cultures; (c) identification of the ways in which characteristics of culture can affect the creation of music; (d) understanding of the ways in which music can be used to influence or manipulate others; (e) providing examples of linkages between music and the natural sciences, social sciences, and the humanities; (f) understanding of the differences in musical style as represented in the Baroque, Classic, and Romantic periods; and (g) understanding of compositional techniques employed by composers in the writing of music, by the end of the course relative to the beginning of the course. Although there was no improvement within the course, students in the Music and the Liberal Arts course displayed a greater perceived level of understanding of the relationships between music and their majors compared with the two sections of Understanding and Enjoying Music. There was also a greater perceived level of providing examples of linkages between music and the natural sciences, and the humanities for the Music and the Liberal Arts students compared with the other classes.

Since one of the sections of Understanding and Enjoying Music also revealed significant gains on most of the items, with the exception of items 5, 6, and 8, the perceived examples of linkages between music and the natural sciences and the humanities appear to be the strongest findings from the survey. There was neither an increase from the beginning to the end of the Music and the Liberal Arts class nor a difference among the music classes in the students' perceived level of: ability to listen for specific musical characteristics in a piece of music. Although there were no differences among the three music classes in perceived level of: (a) familiarity with the major musical styles (in addition to popular music) of European/American culture; (b) familiarity with the major musical styles from Asian, African, or Native American cultures; (c) understanding of the ways in which music can be used to influence or manipulate others; and (d) providing examples of linkages between music and the social sciences, the Music and the Liberal Arts class did exceed the smaller of the other two classes in perceived level of: (a) identification of the ways in which characteristics of culture can affect the creation of music; (b) understanding of the differences in musical style as represented in the Baroque, Classic, and Romantic periods; (c) understanding of the compositional techniques employed by composers in the writing of music; and (d) examples of the way in which events in a composer's life influenced the creation of a musical composition.

There was an increase in music achievement from the beginning to the end of the Music and the Liberal Arts course. Whether the increase was influenced more by the lectures the students rated as having learned the most from is difficult to say.

Based on the data analyses, the course appears to have accomplished most of its goals. It is difficult to determine to what extent the course itself produced the favorable results, given the uncontrolled alternative explanations such as differences in class, major (two students in the Music and the Liberal Arts class were music majors), instructors, the operation of self-selection, and statistical regression. The lack of statistical significance may be indicative of a false-negative finding, another class of threats to internal validity. The small sample size of the Music and the Liberal Arts class and the possibility of treatment diffusion may have combined to produce a no significant difference finding on some of the outcomes. Integrating the results from both within-group and between-group comparisons, it seems reasonable to conclude, however, that most of the positive outcomes of the course can be attributable to the course. Recommendations for refining the evaluation design are: (1) hold class constant (freshmen only for both courses); (2) administer achievement test at the beginning and at the end of Understanding and Enjoying Music sections (to compare music achievement of both courses); (3) use same instructor for all three classes; (4) recruit more students for the Music and the Liberal Arts course to increase sample size.

An outcome in need of review is: ability to listen for specific musical characteristics in a piece of music. Perhaps instruction was not adequate, or the other outcomes were emphasized to a greater extent than this one. The four outcomes apparently common to all three music classes, at least according to students' perceptions, are also in need of review.

The written comments provided by students were quite favorable. They serve as a supplement to the more objective data summarized above. The comments and quantitative evidence converge on the conclusion that the Music and the Liberal Arts course was indeed interdisciplinary and well-liked by the students. The outcomes most singularly affected by the Music and Liberal Arts course were: (a) providing examples of linkages between music and the natural sciences; and (b) providing examples of linkages

between music and the humanities. The outcome of understanding the relationships between music and your major is also unique, despite not showing any improvement.

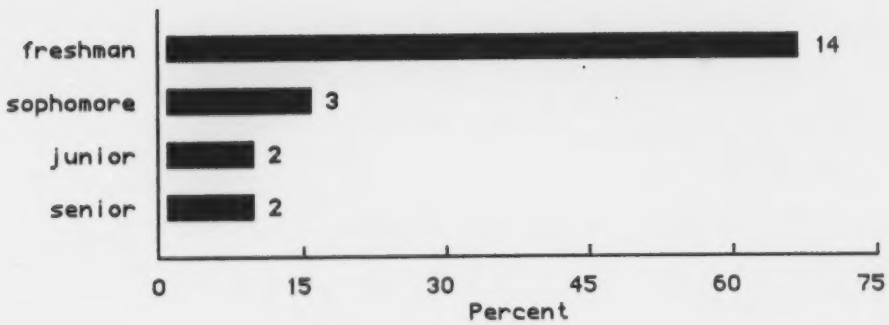
In summary, based on the evidence from the students' perceptions, the Music and the Liberal Arts course is fulfilling nearly all of the purposes for which it was designed. Of the 12 major goals, only two, ability to listen for specific musical characteristics in a piece of music and giving examples of the way in which events in a composer's life influenced the creation of a musical composition, appear not to have been met satisfactorally. The data support the conclusion that the other 10 goals have been accomplished by the Music and the Liberal Arts class.

APPENDIX A

APPENDIX A
UNDERSTANDING AND ENJOYING MUSIC SECTION 1

CLASS

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
freshman	1	14	58.3	66.7	66.7
sophomore	2	3	12.5	14.3	81.0
junior	3	2	8.3	9.5	90.5
senior	4	2	8.3	9.5	100.0
	.	3	12.5	Missing	
	Total	24	100.0	100.0	



Valid cases 21 Missing cases 3

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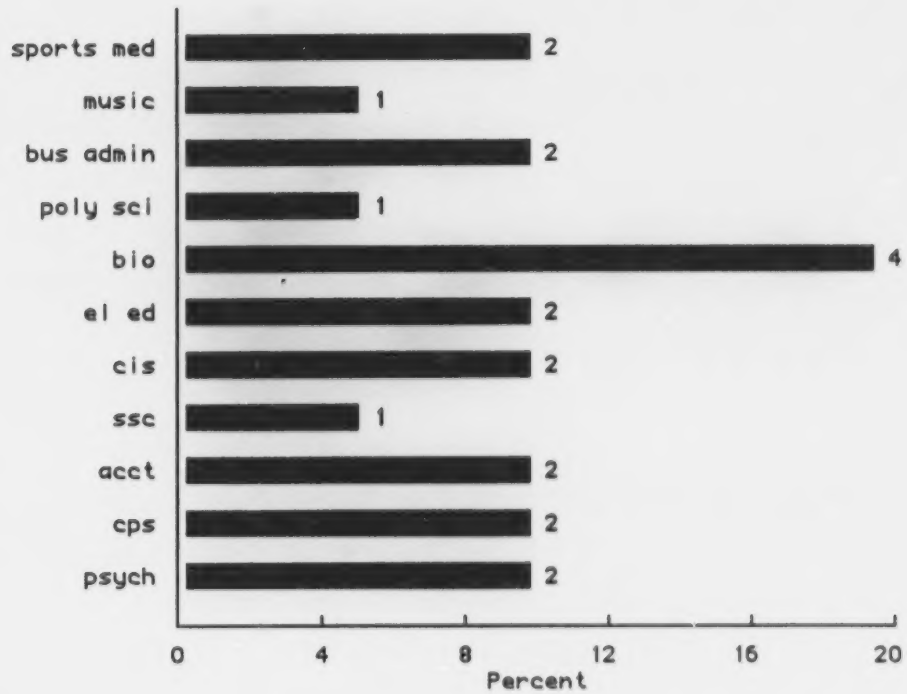
MAJOR

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
sports med	2	2	8.3	9.5	9.5
music	3	1	4.2	4.8	14.3
bus admin	4	2	8.3	9.5	23.8
poly sci	6	1	4.2	4.8	28.6
bio	7	4	16.7	19.0	47.6
el ed	10	2	8.3	9.5	57.1
cis	12	2	8.3	9.5	66.7
ssc	13	1	4.2	4.8	71.4
acct	14	2	8.3	9.5	81.0
cps	15	2	8.3	9.5	90.5
psych	16	2	8.3	9.5	100.0
	.	3	12.5	Missing	
	Total	24	100.0	100.0	



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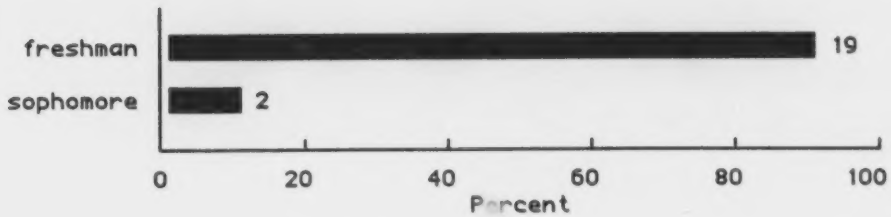
APPENDIX A
UNDERSTANDING AND ENJOYING MUSIC SECTION 2

CLASS

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
freshman	1	19	79.2	90.5	90.5
sophomore	2	2	8.3	9.5	100.0
	.	3	12.5	Missing	
	Total	24	100.0	100.0	



Valid cases 21 Missing cases 3

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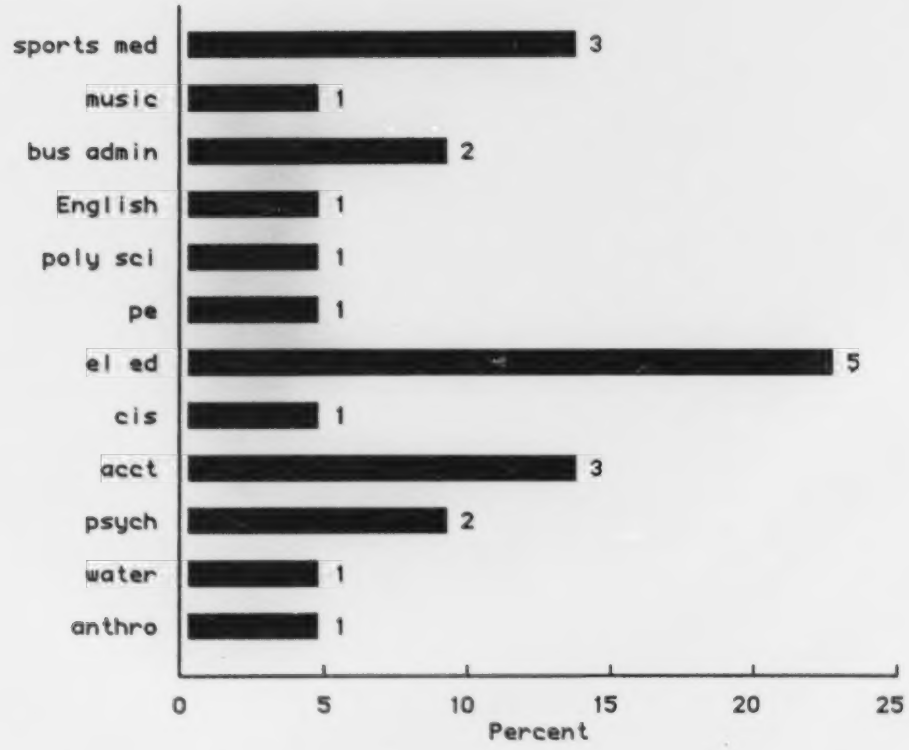
MAJOR

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
sports med	2	3	12.5	13.6	13.6
music	3	1	4.2	4.5	18.2
bus admin	4	2	8.3	9.1	27.3
English	5	1	4.2	4.5	31.8
poly sci	6	1	4.2	4.5	36.4
pe	8	1	4.2	4.5	40.9
el ed	10	5	20.8	22.7	63.6
cis	12	1	4.2	4.5	68.2
acct	14	3	12.5	13.6	81.8
psych	16	2	8.3	9.1	90.9
water	17	1	4.2	4.5	95.5
anthro	18	1	4.2	4.5	100.0
	.	2	8.3	Missing	
	Total	24	100.0	100.0	



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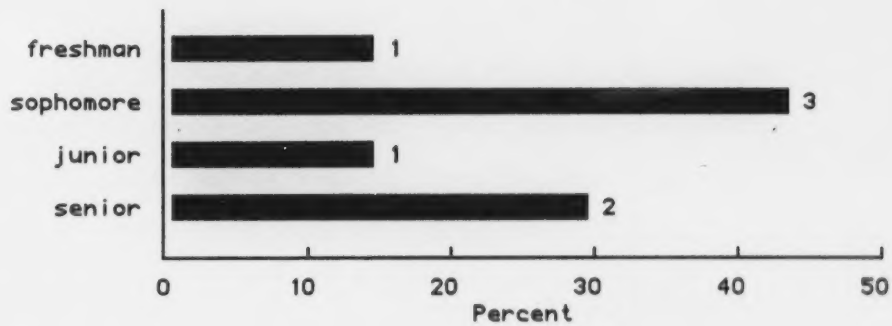
APPENDIX A
MUSIC AND THE LIBERAL ARTS

CLASS

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
freshman	1	1	14.3	14.3	14.3
sophomore	2	3	42.9	42.9	57.1
junior	3	1	14.3	14.3	71.4
senior	4	2	28.6	28.6	100.0
	Total	7	100.0	100.0	



Valid cases 7 Missing cases 0

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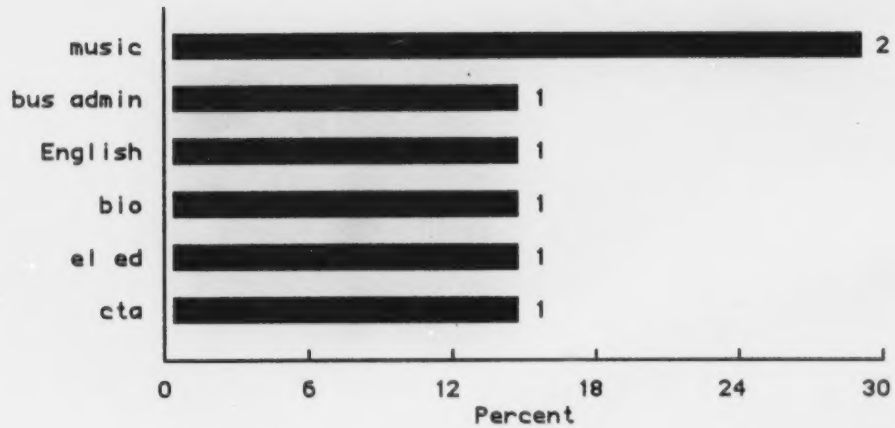
MAJOR

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
music	3	2	28.6	28.6	28.6
bus admin	4	1	14.3	14.3	42.9
English	5	1	14.3	14.3	57.1
bio	7	1	14.3	14.3	71.4
el ed	10	1	14.3	14.3	85.7
cta	11	1	14.3	14.3	100.0
	Total	7	100.0	100.0	



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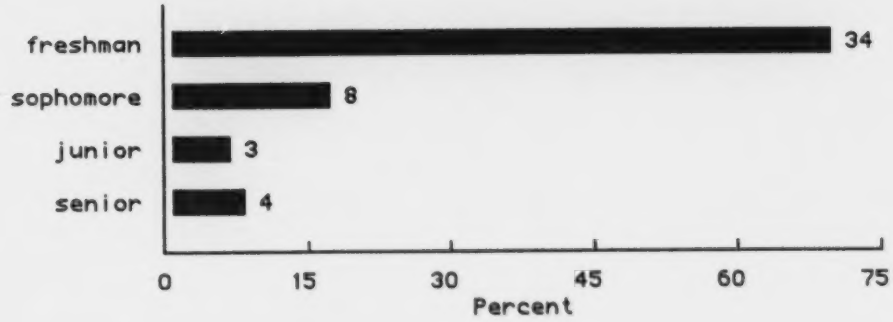
TOTAL SAMPLE

CLASS

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
freshman	1	34	61.8	69.4	69.4
sophomore	2	8	14.5	16.3	85.7
junior	3	3	5.5	6.1	91.8
senior	4	4	7.3	8.2	100.0
	.	6	10.9	Missing	
	Total	55	100.0	100.0	



Valid cases 49 Missing cases 6

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MAJOR

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
sports med	2	5	9.1	10.0	10.0
music	3	4	7.3	8.0	18.0
bus admin	4	5	9.1	10.0	28.0
English	5	2	3.6	4.0	32.0
poly sci	6	2	3.6	4.0	36.0
bio	7	5	9.1	10.0	46.0
pe	8	1	1.8	2.0	48.0
el ed	10	8	14.5	16.0	64.0
cta	11	1	1.8	2.0	66.0
cis	12	3	5.5	6.0	72.0
ssc	13	1	1.8	2.0	74.0
acct	14	5	9.1	10.0	84.0
cps	15	2	3.6	4.0	88.0
psych	16	4	7.3	8.0	96.0
water	17	1	1.8	2.0	98.0
anthro	18	1	1.8	2.0	100.0
	.	5	9.1	Missing	
	Total	55	100.0	100.0	

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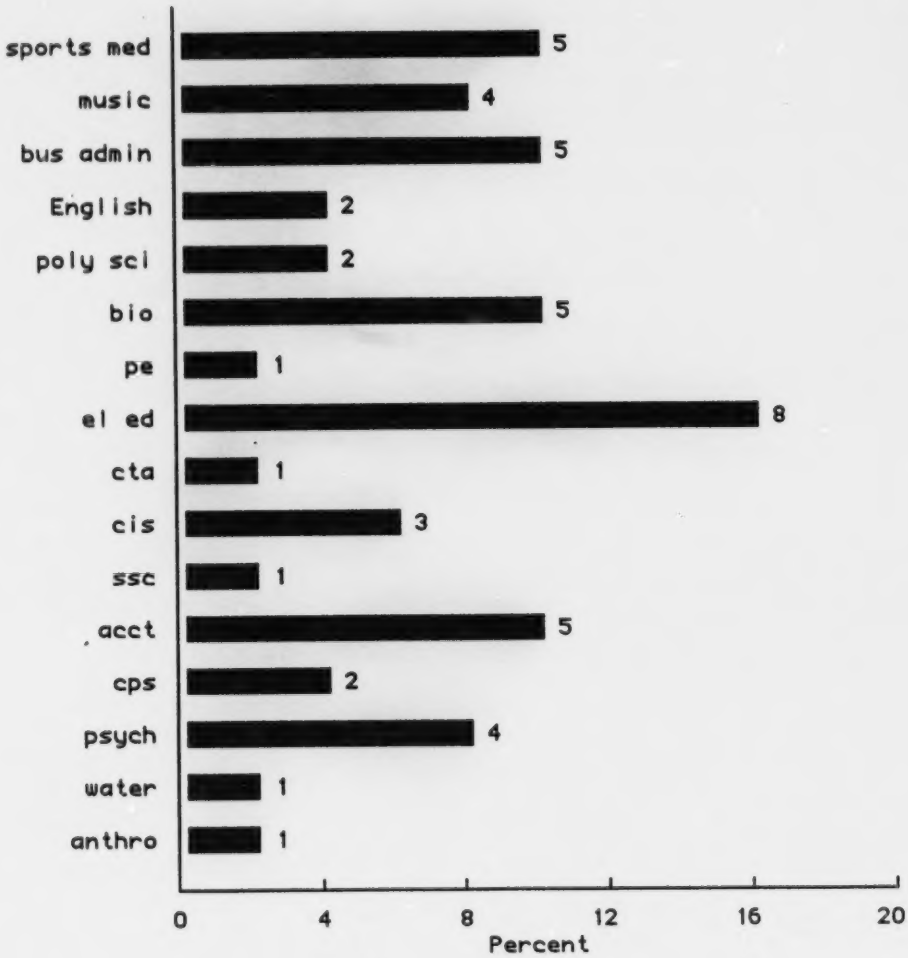
MAJOR



Valid cases 50 Missing cases 5

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APPENDIX B

- - - - - Wilcoxon Matched-Pairs Signed-Ranks Test

PRESUR1 to presur12 'Student Survey Pretest Item
with POSUR1 to posur12 'Student Survey Posttest Item

Mean Rank	Cases	
.00	0	- Ranks (POSUR1 LT PRESUR1)
3.50	6	+ Ranks (POSUR1 GT PRESUR1)
	1	Ties (POSUR1 EQ PRESUR1)
	7	Total

Z = -2.2014 2-Tailed P = .0277

- - - - - Wilcoxon Matched-Pairs Signed-Ranks Test

PRESUR2
with POSUR2

Mean Rank	Cases	
.00	0	- Ranks (POSUR2 LT PRESUR2)
3.00	5	+ Ranks (POSUR2 GT PRESUR2)
	2	Ties (POSUR2 EQ PRESUR2)
	7	Total

Z = -2.0226 2-Tailed P = .0431

- - - - - Wilcoxon Matched-Pairs Signed-Ranks Test

PRESUR3
with POSUR3

Mean Rank	Cases	
.00	0	- Ranks (POSUR3 LT PRESUR3)
3.50	6	+ Ranks (POSUR3 GT PRESUR3)
	1	Ties (POSUR3 EQ PRESUR3)
	7	Total

Z = -2.2014 2-Tailed P = .0277

BEST COPY AVAILABLE

- - - - - Wilcoxon Matched-Pairs Signed-Ranks Test

PRESUR4
with POSUR4

Mean Rank	Cases	
.00	0	- Ranks (POSUR4 LT PRESUR4)
3.50	6	+ Ranks (POSUR4 GT PRESUR4)
	1	Ties (POSUR4 EQ PRESUR4)
	7	Total

Z = -2.2014 2-Tailed P = .0277

- - - - - Wilcoxon Matched-Pairs Signed-Ranks Test

PRESUR5
with POSUR5

Mean Rank	Cases	
.00	0	- Ranks (POSUR5 LT PRESUR5)
1.50	2	+ Ranks (POSUR5 GT PRESUR5)
	5	Ties (POSUR5 EQ PRESUR5)
	7	Total

Z = -1.3416 2-Tailed P = .1797

- - - - - Wilcoxon Matched-Pairs Signed-Ranks Test

PRESUR6
with POSUR6

Mean Rank	Cases	
.00	0	- Ranks (POSUR6 LT PRESUR6)
4.00	7	+ Ranks (POSUR6 GT PRESUR6)
	0	Ties (POSUR6 EQ PRESUR6)
	7	Total

Z = -2.3664 2-Tailed P = .0180

BEST COPY AVAILABLE

- - - - - Wilcoxon Matched-Pairs Signed-Ranks Test

PRESUR7
with POSUR7

Mean Rank	Cases	
.00	0	- Ranks (POSUR7 LT PRESUR7)
3.00	5	+ Ranks (POSUR7 GT PRESUR7)
	2	Ties (POSUR7 EQ PRESUR7)
	7	Total

Z = -2.0226 2-Tailed P = .0431

- - - - - Wilcoxon Matched-Pairs Signed-Ranks Test

PRESUR8
with POSUR8

Mean Rank	Cases	
.00	0	- Ranks (POSUR8 LT PRESUR8)
2.50	4	+ Ranks (POSUR8 GT PRESUR8)
	3	Ties (POSUR8 EQ PRESUR8)
	7	Total

Z = -1.8257 2-Tailed P = .0679

- - - - - Wilcoxon Matched-Pairs Signed-Ranks Test

PRESUR9
with POSUR9

Mean Rank	Cases	
2.00	3	- Ranks (POSUR9 LT PRESUR9)
4.50	2	+ Ranks (POSUR9 GT PRESUR9)
	2	Ties (POSUR9 EQ PRESUR9)
	7	Total

Z = -.4045 2-Tailed P = .6858

- - - - - Wilcoxon Matched-Pairs Signed-Ranks Test

PRESUR10
with POSUR10

Mean Rank	Cases	
2.50	1	- Ranks (POSUR10 LT PRESUR10)
4.25	6	+ Ranks (POSUR10 GT PRESUR10)
	0	Ties (POSUR10 EQ PRESUR10)
	7	Total

Z = -1.9439 2-Tailed P = .0519

- - - - - Wilcoxon Matched-Pairs Signed-Ranks Test

PRESUR11
with POSUR11

Mean Rank	Cases	
.00	0	- Ranks (POSUR11 LT PRESUR11)
3.00	5	+ Ranks (POSUR11 GT PRESUR11)
	2	Ties (POSUR11 EQ PRESUR11)
	7	Total

Z = -2.0226 2-Tailed P = .0431

- - - - - Wilcoxon Matched-Pairs Signed-Ranks Test

PRESUR12
with POSUR12

Mean Rank	Cases	
2.00	1	- Ranks (POSUR12 LT PRESUR12)
3.25	4	+ Ranks (POSUR12 GT PRESUR12)
	2	Ties (POSUR12 EQ PRESUR12)
	7	Total

Z = -1.4832 2-Tailed P = .1380

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APPENDIX B: UNDERSTANDING AND ENJOYING MUSIC SECTION 1

- - - - - Wilcoxon Matched-Pairs Signed-Ranks Test

PRESUR1 to presur12 'Student Survey Pretest Item
with POSUR1 to posur12 'Student Survey Posttest Item

Mean Rank	Cases	
3.00	1	- Ranks (POSUR1 LT PRESUR1)
3.60	5	+ Ranks (POSUR1 GT PRESUR1)
	2	Ties (POSUR1 EQ PRESUR1)
	8	Total

Z = -1.5724 2-Tailed P = .1159

- - - - - Wilcoxon Matched-Pairs Signed-Ranks Test

PRESUR2
with POSUR2

Mean Rank	Cases	
2.50	2	- Ranks (POSUR2 LT PRESUR2)
2.50	2	+ Ranks (POSUR2 GT PRESUR2)
	4	Ties (POSUR2 EQ PRESUR2)
	8	Total

Z = .0000 2-Tailed P = 1.0000

- - - - - Wilcoxon Matched-Pairs Signed-Ranks Test

PRESUR3
with POSUR3

Mean Rank	Cases	
3.75	2	- Ranks (POSUR3 LT PRESUR3)
4.10	5	+ Ranks (POSUR3 GT PRESUR3)
	1	Ties (POSUR3 EQ PRESUR3)
	8	Total

Z = -1.0987 2-Tailed P = .2719

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- - - - - Wilcoxon Matched-Pairs Signed-Ranks Test

PRESUR4
with POSUR4

Mean Rank	Cases	
2.50	1	- Ranks (POSUR4 LT PRESUR4)
2.50	3	+ Ranks (POSUR4 GT PRESUR4)
	4	Ties (POSUR4 EQ PRESUR4)
	8	Total

Z = -.9129 2-Tailed P = .3613

- - - - - Wilcoxon Matched-Pairs Signed-Ranks Test

PRESUR5
with POSUR5

Mean Rank	Cases	
2.83	3	- Ranks (POSUR5 LT PRESUR5)
1.50	1	+ Ranks (POSUR5 GT PRESUR5)
	4	Ties (POSUR5 EQ PRESUR5)
	8	Total

Z = -1.2780 2-Tailed P = .2012

- - - - - Wilcoxon Matched-Pairs Signed-Ranks Test

PRESUR6
with POSUR6

Mean Rank	Cases	
3.00	3	- Ranks (POSUR6 LT PRESUR6)
3.00	2	+ Ranks (POSUR6 GT PRESUR6)
	3	Ties (POSUR6 EQ PRESUR6)
	8	Total

Z = -.4045 2-Tailed P = .6858

BEST COPY AVAILABLE

- - - - - Wilcoxon Matched-Pairs Signed-Ranks Test

PRESUR7
with POSUR7

Mean Rank	Cases	
2.50	2	- Ranks (POSUR7 LT PRESUR7)
2.50	2	+ Ranks (POSUR7 GT PRESUR7)
	4	Ties (POSUR7 EQ PRESUR7)
	8	Total

Z = .0000 2-Tailed P = 1.0000

- - - - - Wilcoxon Matched-Pairs Signed-Ranks Test

PRESUR8
with POSUR8

Mean Rank	Cases	
2.50	1	- Ranks (POSUR8 LT PRESUR8)
3.13	4	+ Ranks (POSUR8 GT PRESUR8)
	3	Ties (POSUR8 EQ PRESUR8)
	8	Total

Z = -1.3484 2-Tailed P = .1775

- - - - - Wilcoxon Matched-Pairs Signed-Ranks Test

PRESUR9
with POSUR9

Mean Rank	Cases	
2.00	1	- Ranks (POSUR9 LT PRESUR9)
2.00	2	+ Ranks (POSUR9 GT PRESUR9)
	5	Ties (POSUR9 EQ PRESUR9)
	8	Total

Z = -.5345 2-Tailed P = .5930

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- - - - - Wilcoxon Matched-Pairs Signed-Ranks Test

PRESUR10
with POSUR10

Mean Rank	Cases	
.00	0	- Ranks (POSUR10 LT PRESUR10)
3.50	6	+ Ranks (POSUR10 GT PRESUR10)
	2	Ties (POSUR10 EQ PRESUR10)
	8	Total

Z = -2.2014 2-Tailed P = .0277

- - - - - Wilcoxon Matched-Pairs Signed-Ranks Test

PRESUR11
with POSUR11

Mean Rank	Cases	
.00	0	- Ranks (POSUR11 LT PRESUR11)
3.00	5	+ Ranks (POSUR11 GT PRESUR11)
	3	Ties (POSUR11 EQ PRESUR11)
	8	Total

Z = -2.0226 2-Tailed P = .0431

- - - - - Wilcoxon Matched-Pairs Signed-Ranks Test

PRESUR12
with POSUR12

Mean Rank	Cases	
2.00	1	- Ranks (POSUR12 LT PRESUR12)
3.80	5	+ Ranks (POSUR12 GT PRESUR12)
	2	Ties (POSUR12 EQ PRESUR12)
	8	Total

Z = -1.7821 2-Tailed P = .0747

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- - - - - Wilcoxon Matched-Pairs Signed-Ranks Test

PRESUR1 to presur12 'Student Survey Pretest Item
with POSUR1 to posur12 'Student Survey Posttest Item

Mean Rank	Cases	
5.50	1	- Ranks (POSUR1 LT PRESUR1)
6.59	11	+ Ranks (POSUR1 GT PRESUR1)
	11	Ties (POSUR1 EQ PRESUR1)
	23	Total

Z = -2.6280 2-Tailed P = .0086

- - - - - Wilcoxon Matched-Pairs Signed-Ranks Test

PRESUR2
with POSUR2

Mean Rank	Cases	
14.00	1	- Ranks (POSUR2 LT PRESUR2)
8.69	16	+ Ranks (POSUR2 GT PRESUR2)
	6	Ties (POSUR2 EQ PRESUR2)
	23	Total

Z = -2.9586 2-Tailed P = .0031

- - - - - Wilcoxon Matched-Pairs Signed-Ranks Test

PRESUR3
with POSUR3

Mean Rank	Cases	
9.00	2	- Ranks (POSUR3 LT PRESUR3)
9.56	16	+ Ranks (POSUR3 GT PRESUR3)
	5	Ties (POSUR3 EQ PRESUR3)
	23	Total

Z = -2.9396 2-Tailed P = .0033

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- - - - - Wilcoxon Matched-Pairs Signed-Ranks Test

PRESUR4
with POSUR4

Mean Rank	Cases	
5.50	4	- Ranks (POSUR4 LT PRESUR4)
9.50	12	+ Ranks (POSUR4 GT PRESUR4)
	7	Ties (POSUR4 EQ PRESUR4)
	23	Total

Z = -2.3786 2-Tailed P = .0174

- - - - - Wilcoxon Matched-Pairs Signed-Ranks Test

PRESUR5
with POSUR5

Mean Rank	Cases	
6.17	3	- Ranks (POSUR5 LT PRESUR5)
5.21	7	+ Ranks (POSUR5 GT PRESUR5)
	13	Ties (POSUR5 EQ PRESUR5)
	23	Total

Z = -.9174 2-Tailed P = .3590

- - - - - Wilcoxon Matched-Pairs Signed-Ranks Test

PRESUR6
with POSUR6

Mean Rank	Cases	
9.25	4	- Ranks (POSUR6 LT PRESUR6)
8.25	12	+ Ranks (POSUR6 GT PRESUR6)
	7	Ties (POSUR6 EQ PRESUR6)
	23	Total

Z = -1.6030 2-Tailed P = .1089

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- - - - - Wilcoxon Matched-Pairs Signed-Ranks Test

PRESUR7
with POSUR7

Mean Rank	Cases	
6.50	3	- Ranks (POSUR7 LT PRESUR7)
8.38	12	+ Ranks (POSUR7 GT PRESUR7)
	8	Ties (POSUR7 EQ PRESUR7)
	23	Total

Z = -2.3002 2-Tailed P = .0214

- - - - - Wilcoxon Matched-Pairs Signed-Ranks Test

PRESUR8
with POSUR8

Mean Rank	Cases	
9.25	4	- Ranks (POSUR8 LT PRESUR8)
7.55	11	+ Ranks (POSUR8 GT PRESUR8)
	8	Ties (POSUR8 EQ PRESUR8)
	23	Total

Z = -1.3063 2-Tailed P = .1914

- - - - - Wilcoxon Matched-Pairs Signed-Ranks Test

PRESUR9
with POSUR9

Mean Rank	Cases	
8.50	2	- Ranks (POSUR9 LT PRESUR9)
7.33	12	+ Ranks (POSUR9 GT PRESUR9)
	9	Ties (POSUR9 EQ PRESUR9)
	23	Total

Z = -2.2286 2-Tailed P = .0258

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- - - - - Wilcoxon Matched-Pairs Signed-Ranks Test

PRESUR10
with POSUR10

Mean Rank	Cases	
6.50	3	- Ranks (POSUR10 LT PRESUR10)
8.96	13	+ Ranks (POSUR10 GT PRESUR10)
	7	Ties (POSUR10 EQ PRESUR10)
	23	Total

Z = -2.5079 2-Tailed P = .0121

- - - - - Wilcoxon Matched-Pairs Signed-Ranks Test

PRESUR11
with POSUR11

Mean Rank	Cases	
6.50	2	- Ranks (POSUR11 LT PRESUR11)
7.67	12	+ Ranks (POSUR11 GT PRESUR11)
	9	Ties (POSUR11 EQ PRESUR11)
	23	Total

Z = -2.4797 2-Tailed P = .0132

- - - - - Wilcoxon Matched-Pairs Signed-Ranks Test

PRESUR12
with POSUR12

Mean Rank	Cases	
10.50	2	- Ranks (POSUR12 LT PRESUR12)
7.00	12	+ Ranks (POSUR12 GT PRESUR12)
	9	Ties (POSUR12 EQ PRESUR12)
	23	Total

Z = -1.9775 2-Tailed P = .0480

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APPENDIX C

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APPENDIX C

- - - - - Kruskal-Wallis 1-Way Anova

POSUR1 to posur12 'Student Survey Posttest Item
by COURSE

Mean Rank	Cases		
30.00	24	COURSE = 1	UEM Section 1
23.41	23	COURSE = 2	UEM Section 2
32.36	7	COURSE = 3	MLA
	--		
	54	Total	

			Corrected for ties	
Cases	Chi-Square	Significance	Chi-Square	Significance
54	2.8255	.2435	3.3747	.1850

- - - - - Kruskal-Wallis 1-Way Anova

POSUR2
by COURSE

Mean Rank	Cases		
25.38	24	COURSE = 1	UEM Section 1
28.80	23	COURSE = 2	UEM Section 2
30.50	7	COURSE = 3	MLA
	--		
	54	Total	

			Corrected for ties	
Cases	Chi-Square	Significance	Chi-Square	Significance
54	.8505	.6536	.9715	.6152

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- - - - - Kruskal-Wallis 1-Way Anova

POSUR3
by COURSE

Mean Rank	Cases		
32.98	24	COURSE = 1	UEM Section 1
20.52	23	COURSE = 2	UEM Section 2
31.64	7	COURSE = 3	MLA
	--		
	54	Total	

			Corrected for ties	
Cases	Chi-Square	Significance	Chi-Square	Significance
54	7.9219	.0190	8.7338	.0127

- - - - - Kruskal-Wallis 1-Way Anova

POSUR4
by COURSE

Mean Rank	Cases		
29.88	24	COURSE = 1	UEM Section 1
24.63	23	COURSE = 2	UEM Section 2
28.79	7	COURSE = 3	MLA
	--		
	54	Total	

			Corrected for ties	
Cases	Chi-Square	Significance	Chi-Square	Significance
54	1.3589	.5069	1.5125	.4694

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- - - - - Kruskal-Wallis 1-Way Anova

POSUR5
by COURSE

Mean Rank	Cases	
27.38	24	COURSE = 1 UEM Section 1
22.67	23	COURSE = 2 UEM Section 2
43.79	7	COURSE = 3 MLA
	--	
	54	Total

			Corrected for ties	
Cases	Chi-Square	Significance	Chi-Square	Significance
54	9.6672	.0080	10.2151	.0061

- - - - - Kruskal-Wallis 1-Way Anova

POSUR6
by COURSE

Mean Rank	Cases	
25.19	24	COURSE = 1 UEM Section 1
25.93	23	COURSE = 2 UEM Section 2
40.57	7	COURSE = 3 MLA
	--	
	54	Total

			Corrected for ties	
Cases	Chi-Square	Significance	Chi-Square	Significance
54	5.5787	.0615	6.0513	.0485

- - - - - Kruskal-Wallis 1-Way Anova

POSUR7
by COURSE

Mean Rank	Cases		
29.23	24	COURSE = 1	UEM Section 1
23.09	23	COURSE = 2	UEM Section 2
36.07	7	COURSE = 3	MLA
	--		
	54	Total	

			Corrected for ties	
Cases	Chi-Square	Significance	Chi-Square	Significance
54	4.1777	.1238	4.4624	.1074

- - - - - Kruskal-Wallis 1-Way Anova

POSUR8
by COURSE

Mean Rank	Cases		
28.60	24	COURSE = 1	UEM Section 1
23.07	23	COURSE = 2	UEM Section 2
38.29	7	COURSE = 3	MLA
	--		
	54	Total	

			Corrected for ties	
Cases	Chi-Square	Significance	Chi-Square	Significance
54	5.2361	.0729	5.6621	.0590

- - - - - Kruskal-Wallis 1-Way Anova

POSUR9
by COURSE

Mean Rank	Cases		
30.71	24	COURSE = 1	UEM Section 1
24.13	23	COURSE = 2	UEM Section 2
27.57	7	COURSE = 3	MLA
	--		
	54	Total	

			Corrected for ties	
Cases	Chi-Square	Significance	Chi-Square	Significance
54	2.0534	.3582	2.2030	.3324

- - - - - Kruskal-Wallis 1-Way Anova

POSUR10
by COURSE

Mean Rank	Cases		
35.29	24	COURSE = 1	UEM Section 1
19.26	23	COURSE = 2	UEM Section 2
27.86	7	COURSE = 3	MLA
	--		
	54	Total	

			Corrected for ties	
Cases	Chi-Square	Significance	Chi-Square	Significance
54	12.1990	.0022	13.1073	.0014

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- - - - - Kruskal-Wallis 1-Way Anova

POSUR11
by COURSE

Mean Rank	Cases		
32.50	24	COURSE = 1	UEM Section 1
22.61	23	COURSE = 2	UEM Section 2
26.43	7	COURSE = 3	MLA
	--		
	54	Total	

			Corrected for ties	
Cases	Chi-Square	Significance	Chi-Square	Significance
54	4.6800	.0963	5.0675	.0794

- - - - - Kruskal-Wallis 1-Way Anova

POSUR12
by COURSE

Mean Rank	Cases		
33.94	24	COURSE = 1	UEM Section 1
19.85	23	COURSE = 2	UEM Section 2
30.57	7	COURSE = 3	MLA
	--		
	54	Total	

			Corrected for ties	
Cases	Chi-Square	Significance	Chi-Square	Significance
54	9.7269	.0077	10.6795	.0048

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APPENDIX D

APPENDIX D

- - - t-tests for paired samples - - -

Variable	Number of Cases	Mean	Standard Deviation	Standard Error
PREACH	Evaluation Instrument 1996 Pretest			
	7	19.5714	3.599	1.360
	7	27.1429	2.610	.986
POSTACH	Evaluation Instrument 1996 Posttest			

(Difference) Mean	Standard Deviation	Standard Error	2-tail Corr.	2-tail Prob.	t Value	Degrees of Freedom	2-tail Prob.
-7.5714	4.650	1.757	-.099	.833	-4.31	6	.005

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APPENDIX E

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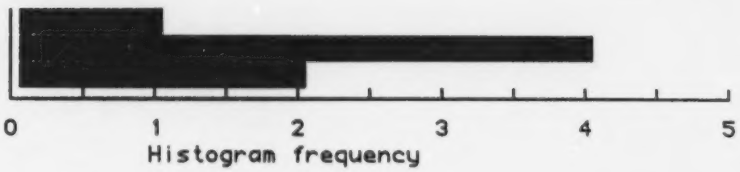
APPENDIX E

L1

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
NEUTRAL	3	1	14.3	14.3	14.3
	4	4	57.1	57.1	71.4
LEARNED A LOT	5	2	28.6	28.6	100.0
	Total	7	100.0	100.0	

Count	Value	One symbol equals approximately .10 occurrences
1	3.00	
4	4.00	
2	5.00	



Mean	4.143	Std err	.261	Median	4.000
Mode	4.000	Std dev	.690	Variance	.476
Kurtosis	.336	S E Kurt	1.587	Skewness	-.174
S E Skew	.794	Range	2.000	Minimum	3.000
Maximum	5.000	Sum	29.000		

Valid cases 7 Missing cases 0

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L2

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
NEUTRAL	3	2	28.6	28.6	28.6
	4	5	71.4	71.4	100.0
	Total	7	100.0	100.0	

Count	Value
2	3.00
5	4.00

One symbol equals approximately .10 occurrences

Histogram frequency

Mean	3.714	Std err	.184	Median	4.000
Mode	4.000	Std dev	.488	Variance	.238
Kurtosis	-.840	S E Kurt	1.587	Skewness	-1.230
S E Skew	.794	Range	1.000	Minimum	3.000
Maximum	4.000	Sum	26.000		

Valid cases	7	Missing cases	0

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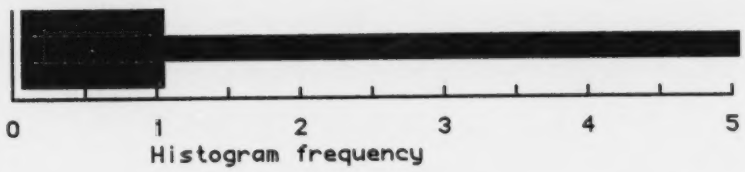
L3

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
NEUTRAL	3	1	14.3	14.3	14.3
	4	5	71.4	71.4	85.7
LEARNED A LOT	5	1	14.3	14.3	100.0
	Total	7	100.0	100.0	

Count	Value
1	3.00
5	4.00
1	5.00

One symbol equals approximately .10 occurrences



Mean	4.000	Std err	.218	Median	4.000
Mode	4.000	Std dev	.577	Variance	.333
Kurtosis	3.000	S E Kurt	1.587	Skewness	.000
S E Skew	.794	Range	2.000	Minimum	3.000
Maximum	5.000	Sum	28.000		

Valid cases 7 Missing cases 0

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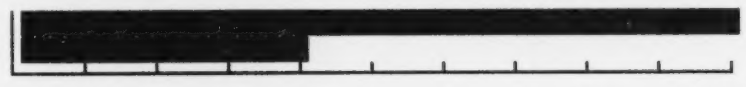
L4

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	4	5	71.4	71.4	71.4
LEARNED A LOT	5	2	28.6	28.6	100.0
	Total	7	100.0	100.0	

Count Value One symbol equals approximately .10 occurrences

5 4.00
2 5.00



Histogram frequency

Mean	4.286	Std err	.184	Median	4.000
Mode	4.000	Std dev	.488	Variance	.238
Kurtosis	-.840	S E Kurt	1.587	Skewness	1.230
S E Skew	.794	Range	1.000	Minimum	4.000
Maximum	5.000	Sum	30.000		

Valid cases 7 Missing cases 0

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L5

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
NEUTRAL	3	3	42.9	42.9	42.9
	4	4	57.1	57.1	100.0
	Total	7	100.0	100.0	

Count Value One symbol equals approximately .10 occurrences

3 3.00
4 4.00

Histogram frequency

Mean	3.571	Std err	.202	Median	4.000
Mode	4.000	Std dev	.535	Variance	.286
Kurtosis	-2.800	S E Kurt	1.587	Skewness	-.374
S E Skew	.794	Range	1.000	Minimum	3.000
Maximum	4.000	Sum	25.000		

Valid cases 7 Missing cases 0

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L6

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
NEUTRAL	3	2	28.6	28.6	28.6
	4	5	71.4	71.4	100.0
	Total	7	100.0	100.0	

Count Value One symbol equals approximately .10 occurrences

2 3.00
5 4.00

Histogram frequency

Mean	3.714	Std err	.184	Median	4.000
Mode	4.000	Std dev	.488	Variance	.238
Kurtosis	-.840	S E Kurt	1.587	Skewness	-1.230
S E Skew	.794	Range	1.000	Minimum	3.000
Maximum	4.000	Sum	26.000		

Valid cases 7 Missing cases 0

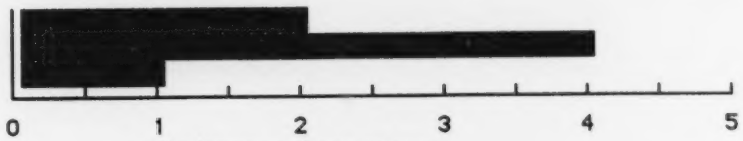
BEST COPY AVAILABLE

L7

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
NEUTRAL	3	2	28.6	28.6	28.6
	4	4	57.1	57.1	85.7
LEARNED A LOT	5	1	14.3	14.3	100.0
	Total	7	100.0	100.0	

Count Value One symbol equals approximately .10 occurrences

2 3.00
4 4.00
1 5.00



Histogram frequency

Mean	3.857	Std err	.261	Median	4.000
Mode	4.000	Std dev	.690	Variance	.476
Kurtosis	.336	S E Kurt	1.587	Skewness	.174
S E Skew	.794	Range	2.000	Minimum	3.000
Maximum	5.000	Sum	27.000		

Valid cases 7 Missing cases 0

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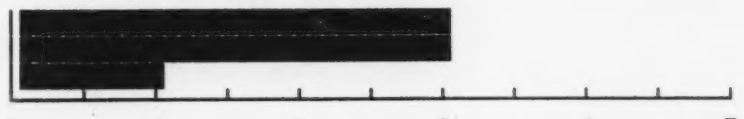
L8

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
NEUTRAL	3	3	42.9	42.9	42.9
	4	3	42.9	42.9	85.7
LEARNED A LOT	5	1	14.3	14.3	100.0
	Total	7	100.0	100.0	

Count	Value	One symbol equals approximately .10 occurrences
3	3.00	
3	4.00	
1	5.00	



Histogram frequency

Mean	3.714	Std err	.286	Median	4.000
Mode	3.000	Std dev	.756	Variance	.571
Kurtosis	-.350	S E Kurt	1.587	Skewness	.595
S E Skew	.794	Range	2.000	Minimum	3.000
Maximum	5.000	Sum	26.000		

Valid cases 7 Missing cases 0

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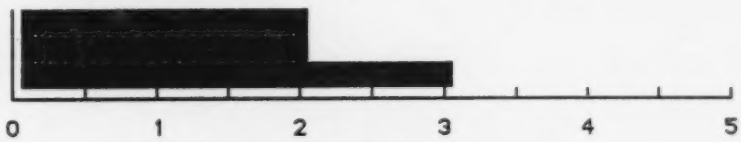
L9

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
NEUTRAL	3	2	28.6	28.6	28.6
	4	2	28.6	28.6	57.1
LEARNED A LOT	5	3	42.9	42.9	100.0
	Total	7	100.0	100.0	

Count	Value	One symbol equals approximately .10 occurrences
2	3.00	
2	4.00	
3	5.00	



Histogram frequency

Mean	4.143	Std err	.340	Median	4.000
Mode	5.000	Std dev	.900	Variance	.810
Kurtosis	-1.817	S E Kurt	1.587	Skewness	-.353
S E Skew	.794	Range	2.000	Minimum	3.000
Maximum	5.000	Sum	29.000		

Valid cases 7 Missing cases 0

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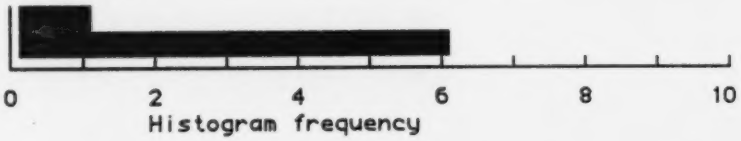
L10

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
NEUTRAL	3	1	14.3	14.3	14.3
	4	6	85.7	85.7	100.0
	Total	7	100.0	100.0	



Mean	3.857	Std err	.143	Median	4.000
Mode	4.000	Std dev	.378	Variance	.143
Kurtosis	7.000	S E Kurt	1.587	Skewness	-2.646
S E Skew	.794	Range	1.000	Minimum	3.000
Maximum	4.000	Sum	27.000		

Valid cases 7 Missing cases 0

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L11

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
NEUTRAL	3	2	28.6	28.6	28.6
	4	5	71.4	71.4	100.0
	Total	7	100.0	100.0	

Count Value One symbol equals approximately .10 occurrences

2 3.00
5 4.00

Histogram frequency

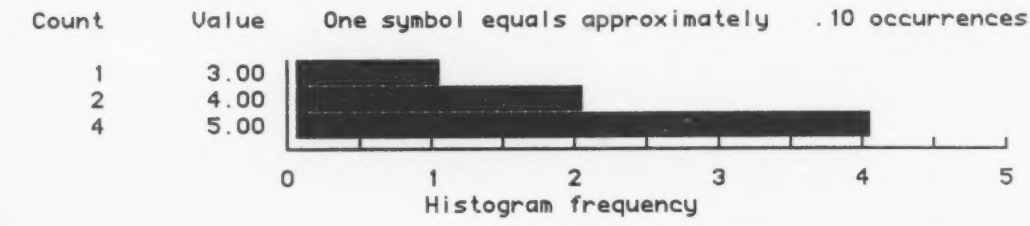
Mean	3.714	Std err	.184	Median	4.000
Mode	4.000	Std dev	.488	Variance	.238
Kurtosis	-.840	S E Kurt	1.587	Skewness	-1.230
S E Skew	.794	Range	1.000	Minimum	3.000
Maximum	4.000	Sum	26.000		

Valid cases 7 Missing cases 0

BEST COPY AVAILABLE

L12

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
NEUTRAL	3	1	14.3	14.3	14.3
	4	2	28.6	28.6	42.9
LEARNED A LOT	5	4	57.1	57.1	100.0
	Total	7	100.0	100.0	



Mean	4.429	Std err	.297	Median	5.000
Mode	5.000	Std dev	.787	Variance	.619
Kurtosis	.273	S E Kurt	1.587	Skewness	-1.115
S E Skew	.794	Range	2.000	Minimum	3.000
Maximum	5.000	Sum	31.000		

Valid cases 7 Missing cases 0

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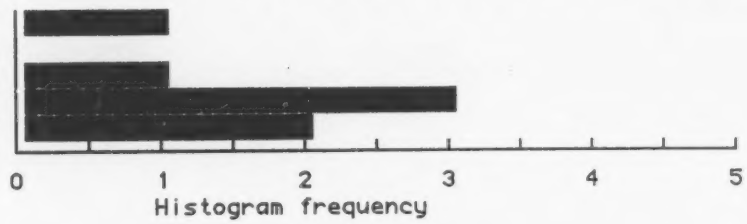
L13

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
LEARNED ZIP	1	1	14.3	14.3	14.3
NEUTRAL	3	1	14.3	14.3	28.6
	4	3	42.9	42.9	71.4
LEARNED A LOT	5	2	28.6	28.6	100.0
	Total	7	100.0	100.0	



Mean	3.714	Std err	.522	Median	4.000
Mode	4.000	Std dev	1.380	Variance	1.905
Kurtosis	2.321	S E Kurt	1.587	Skewness	-1.424
S E Skew	.794	Range	4.000	Minimum	1.000
Maximum	5.000	Sum	26.000		

Valid cases 7 Missing cases 0

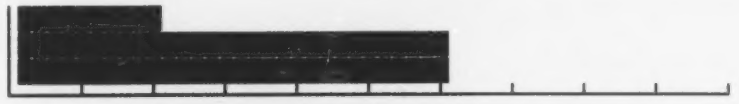
BEST COPY AVAILABLE

L14

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
NEUTRAL	3	1	14.3	14.3	14.3
	4	3	42.9	42.9	57.1
LEARNED A LOT	5	3	42.9	42.9	100.0
	Total	7	100.0	100.0	

Count	Value
1	3.00
3	4.00
3	5.00

One symbol equals approximately .10 occurrences



Histogram frequency

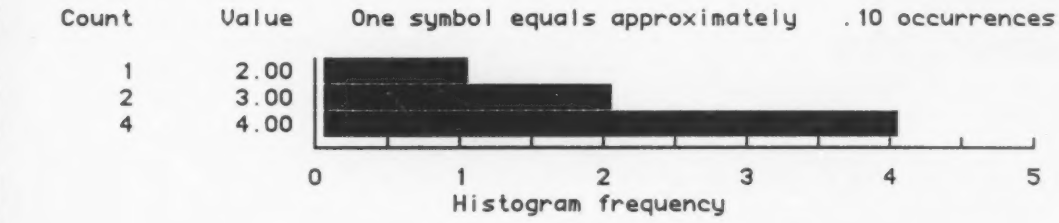
Mean	4.286	Std err	.286	Median	4.000
Mode	4.000	Std dev	.756	Variance	.571
Kurtosis	-.350	S E Kurt	1.587	Skewness	-.595
S E Skew	.794	Range	2.000	Minimum	3.000
Maximum	5.000	Sum	30.000		

Valid cases 7 Missing cases 0

BEST COPY AVAILABLE

L15

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	2	1	14.3	14.3	14.3
NEUTRAL	3	2	28.6	28.6	42.9
	4	4	57.1	57.1	100.0
	Total	7	100.0	100.0	



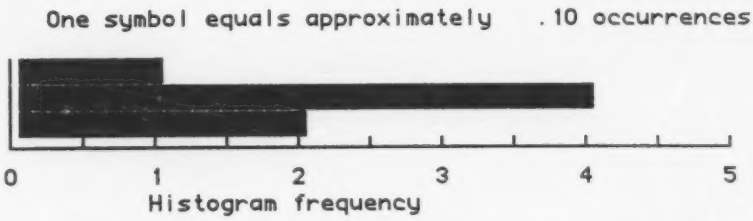
Mean	3.429	Std err	.297	Median	4.000
Mode	4.000	Std dev	.787	Variance	.619
Kurtosis	.273	S E Kurt	1.587	Skewness	-1.115
S E Skew	.794	Range	2.000	Minimum	2.000
Maximum	4.000	Sum	24.000		

Valid cases 7 Missing cases 0

BEST COPY AVAILABLE

L16

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
NEUTRAL	3	1	14.3	14.3	14.3
	4	4	57.1	57.1	71.4
LEARNED A LOT	5	2	28.6	28.6	100.0
	Total	7	100.0	100.0	



Mean	4.143	Std err	.261	Median	4.000
Mode	4.000	Std dev	.690	Variance	.476
Kurtosis	.336	S E Kurt	1.587	Skewness	-.174
S E Skew	.794	Range	2.000	Minimum	3.000
Maximum	5.000	Sum	29.000		

Valid cases 7 Missing cases 0

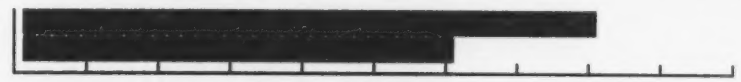
BEST COPY AVAILABLE

L17

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	4	4	57.1	57.1	57.1
LEARNED A LOT	5	3	42.9	42.9	100.0
	Total	7	100.0	100.0	

Count Value One symbol equals approximately .10 occurrences

4 4.00
3 5.00



Histogram frequency

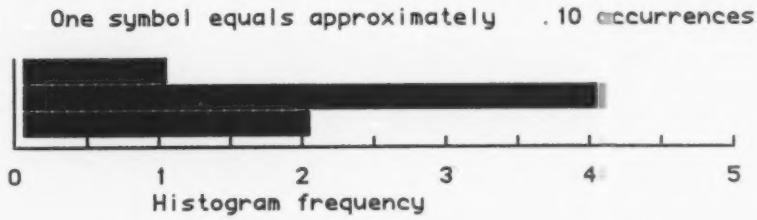
Mean	4.429	Std err	.202	Median	4.000
Mode	4.000	Std dev	.535	Variance	.286
Kurtosis	-2.800	S E Kurt	1.587	Skewness	.374
S E Skew	.794	Range	1.000	Minimum	4.000
Maximum	5.000	Sum	31.000		

Valid cases 7 Missing cases 0

BEST COPY AVAILABLE

L18

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
NEUTRAL	3	1	14.3	14.3	14.3
	4	4	57.1	57.1	71.4
LEARNED A LOT	5	2	28.6	28.6	100.0
	Total	7	100.0	100.0	



Mean	4.143	Std err	.261	Median	4.000
Mode	4.000	Std dev	.690	Variance	.476
Kurtosis	.336	S E Kurt	1.587	Skewness	-.174
S E Skew	.794	Range	2.000	Minimum	3.000
Maximum	5.000	Sum	29.000		

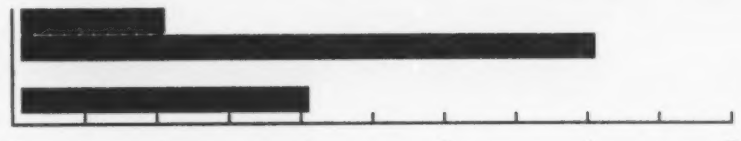
Valid cases 7 Missing cases 0

BEST COPY AVAILABLE

L19

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	2	1	14.3	14.3	14.3
NEUTRAL	3	4	57.1	57.1	71.4
LEARNED A LOT	5	2	28.6	28.6	100.0
	Total	7	100.0	100.0	

Count	Value	One symbol equals approximately .10 occurrences
1	2.00	
4	3.00	
0	4.00	
2	5.00	



Histogram frequency

Mean	3.429	Std err	.429	Median	3.000
Mode	3.000	Std dev	1.134	Variance	1.286
Kurtosis	-.743	S E Kurt	1.587	Skewness	.725
S E Skew	.794	Range	3.000	Minimum	2.000
Maximum	5.000	Sum	24.000		

Valid cases 7 Missing cases 0

BEST COPY AVAILABLE

L20

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
NEUTRAL	3	1	14.3	14.3	14.3
LEARNED A LOT	5	6	85.7	85.7	100.0
	Total	7	100.0	100.0	

Count Value One symbol equals approximately .20 occurrences

1 3.00
6 5.00

Histogram frequency

Mean	4.714	Std err	.286	Median	5.000
Mode	5.000	Std dev	.756	Variance	.571
Kurtosis	7.000	S E Kurt	1.587	Skewness	-2.646
S E Skew	.794	Range	2.000	Minimum	3.000
Maximum	5.000	Sum	33.000		

Valid cases 7 Missing cases 0

BEST COPY AVAILABLE

E1

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
NEUTRAL	3	2	28.6	33.3	33.3
	4	1	14.3	16.7	50.0
ENJOYED IT A LOT	5	3	42.9	50.0	100.0
	.	1	14.3	Missing	
	Total	7	100.0	100.0	

Count	Value
2	3.00
1	4.00
3	5.00

One symbol equals approximately .10 occurrences

Histogram frequency

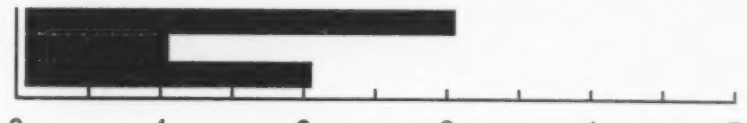
Mean	4.167	Std err	.401	Median	4.500
Mode	5.000	Std dev	.983	Variance	.967
Kurtosis	-2.390	S E Kurt	1.741	Skewness	-.456
S E Skew	.845	Range	2.000	Minimum	3.000
Maximum	5.000	Sum	25.000		

Valid cases 6 Missing cases 1

BEST COPY AVAILABLE

E2

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
NEUTRAL	3	3	42.9	50.0	50.0
	4	1	14.3	16.7	66.7
ENJOYED IT A LOT	5	2	28.6	33.3	100.0
	.	1	14.3	Missing	
	Total	7	100.0	100.0	



Mean	3.833	Std err	.401	Median	3.500
Mode	3.000	Std dev	.983	Variance	.967
Kurtosis	-2.390	S E Kurt	1.741	Skewness	.456
S E Skew	.845	Range	2.000	Minimum	3.000
Maximum	5.000	Sum	23.000		

Valid cases 6 Missing cases 1

BEST COPY AVAILABLE

E3

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
NEUTRAL	3	2	28.6	33.3	33.3
	4	1	14.3	16.7	50.0
ENJOYED IT A LOT	5	3	42.9	50.0	100.0
	.	1	14.3	Missing	
	Total	7	100.0	100.0	

Count	Value
2	3.00
1	4.00
3	5.00

One symbol equals approximately .10 occurrences

Histogram frequency

Mean	4.167	Std err	.401	Median	4.500
Mode	5.000	Std dev	.983	Variance	.967
Kurtosis	-2.390	S E Kurt	1.741	Skewness	-.456
S E Skew	.845	Range	2.000	Minimum	3.000
Maximum	5.000	Sum	25.000		

Valid cases 6 Missing cases 1

BEST COPY AVAILABLE

E4

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	4	2	28.6	33.3	33.3
ENJOYED IT A LOT	5	4	57.1	66.7	100.0
	.	1	14.3	Missing	
	Total	7	100.0	100.0	

Count Value One symbol equals approximately .10 occurrences

2 4.00
4 5.00

Histogram frequency

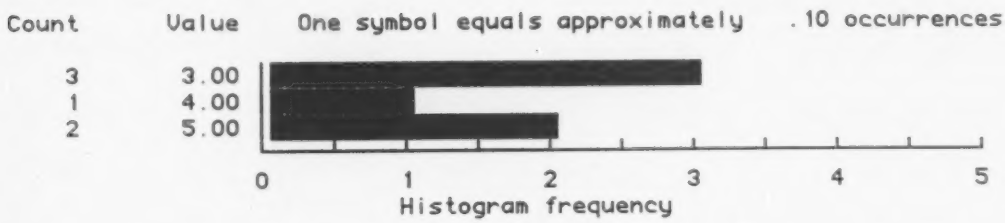
Mean	4.667	Std err	.211	Median	5.000
Mode	5.000	Std dev	.516	Variance	.267
Kurtosis	-1.875	S E Kurt	1.741	Skewness	-.968
S E Skew	.845	Range	1.000	Minimum	4.000
Maximum	5.000	Sum	28.000		

Valid cases 6 Missing cases 1

BEST COPY AVAILABLE

E5

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
NEUTRAL	3	3	42.9	50.0	50.0
	4	1	14.3	16.7	66.7
ENJOYED IT A LOT	5	2	28.6	33.3	100.0
	.	1	14.3	Missing	
	Total	7	100.0	100.0	



Mean	3.833	Std err	.401	Median	3.500
Mode	3.000	Std dev	.983	Variance	.967
Kurtosis	-2.390	S E Kurt	1.741	Skewness	.456
S E Skew	.845	Range	2.000	Minimum	3.000
Maximum	5.000	Sum	23.000		

Valid cases 6 Missing cases 1

BEST COPY AVAILABLE

E6

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
NEUTRAL	3	4	57.1	66.7	66.7
	4	2	28.6	33.3	100.0
	.	1	14.3	Missing	
	Total	7	100.0	100.0	

Count Value One symbol equals approximately .10 occurrences

Histogram frequency

Mean	3.333	Std err	.211	Median	3.000
Mode	3.000	Std dev	.516	Variance	.267
Kurtosis	-1.875	S E Kurt	1.741	Skewness	.968
S E Skew	.845	Range	1.000	Minimum	3.000
Maximum	4.000	Sum	20.000		

Valid cases 6 Missing cases 1

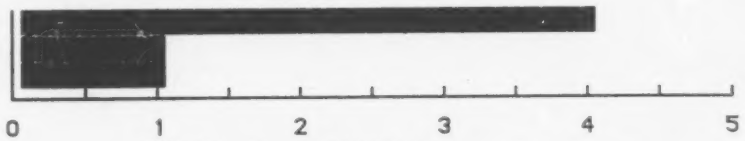
BEST COPY AVAILABLE

E7

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
NEUTRAL	3	4	57.1	66.7	66.7
	4	1	14.3	16.7	83.3
ENJOYED IT A LOT	5	1	14.3	16.7	100.0
	.	1	14.3	Missing	
	Total	7	100.0	100.0	

Count Value One symbol equals approximately .10 occurrences

4 3.00
1 4.00
1 5.00



Histogram frequency

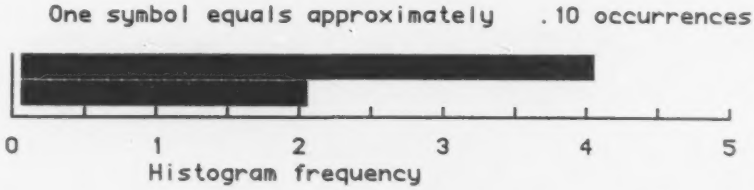
Mean	3.500	Std err	.342	Median	3.000
Mode	3.000	Std dev	.837	Variance	.700
Kurtosis	1.429	S E Kurt	1.741	Skewness	1.537
S E Skew	.845	Range	2.000	Minimum	3.000
Maximum	5.000	Sum	21.000		

Valid cases 6 Missing cases 1

BEST COPY AVAILABLE

E8

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
NEUTRAL	3	4	57.1	66.7	66.7
	4	2	28.6	33.3	100.0
	.	1	14.3	Missing	
	Total	7	100.0	100.0	



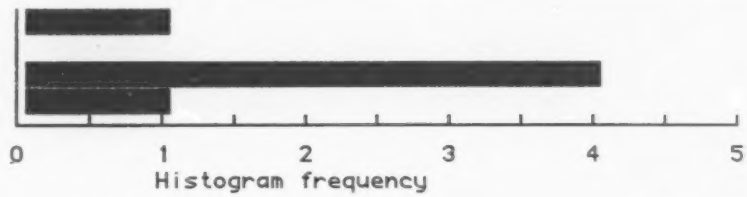
Mean	3.333	Std err	.211	Median	3.000
Mode	3.000	Std dev	.516	Variance	.267
Kurtosis	-1.875	S E Kurt	1.741	Skewness	.968
S E Skew	.845	Range	1.000	Minimum	3.000
Maximum	4.000	Sum	20.000		

Valid cases 6 Missing cases 1

BEST COPY AVAILABLE

E9

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	2	1	14.3	16.7	16.7
	4	4	57.1	66.7	83.3
ENJOYED IT A LOT	5	1	14.3	16.7	100.0
	.	1	14.3	Missing	
	Total	7	100.0	100.0	



Mean	3.833	Std err	.401	Median	4.000
Mode	4.000	Std dev	.983	Variance	.967
Kurtosis	3.603	S E Kurt	1.741	Skewness	-1.438
S E Skew	.845	Range	3.000	Minimum	2.000
Maximum	5.000	Sum	23.000		

Valid cases 6 Missing cases 1

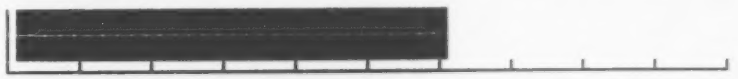
BEST COPY AVAILABLE

E10

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
NEUTRAL	3	3	42.9	50.0	50.0
	4	3	42.9	50.0	100.0
	.	1	14.3	Missing	
	Total	7	100.0	100.0	

Count Value One symbol equals approximately .10 occurrences

3 3.00
3 4.00



Histogram frequency

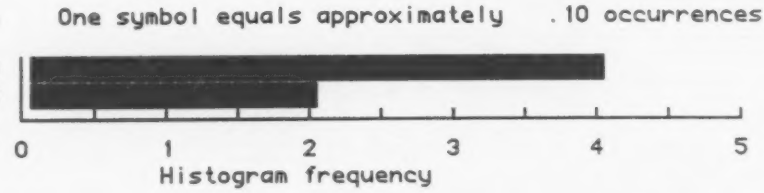
Mean	3.500	Std err	.224	Median	3.500
Mode	3.000	Std dev	.548	Variance	.300
Kurtosis	-3.333	S E Kurt	1.741	Skewness	.000
S E Skew	.845	Range	1.000	Minimum	3.000
Maximum	4.000	Sum	21.000		

Valid cases 6 Missing cases 1

BEST COPY AVAILABLE

E11

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
NEUTRAL	3	4	57.1	66.7	66.7
	4	2	28.6	33.3	100.0
	.	1	14.3	Missing	
	Total	7	100.0	100.0	



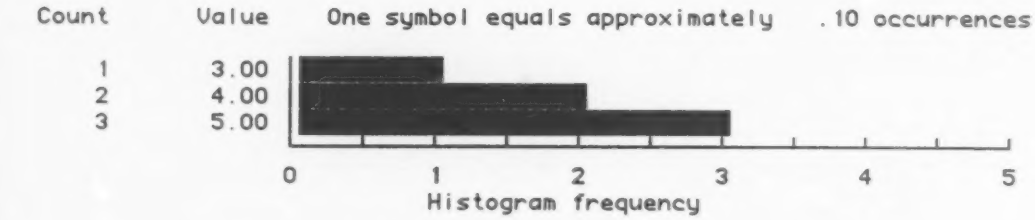
Mean	3.333	Std err	.211	Median	3.000
Mode	3.000	Std dev	.516	Variance	.267
Kurtosis	-1.875	S E Kurt	1.741	Skewness	.968
S E Skew	.845	Range	1.000	Minimum	3.000
Maximum	4.000	Sum	20.000		

Valid cases 6 Missing cases 1

BEST COPY AVAILABLE

E12

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
NEUTRAL	3	1	14.3	16.7	16.7
	4	2	28.6	33.3	50.0
ENJOYED IT A LOT	5	3	42.9	50.0	100.0
	.	1	14.3	Missing	
	Total	7	100.0	100.0	



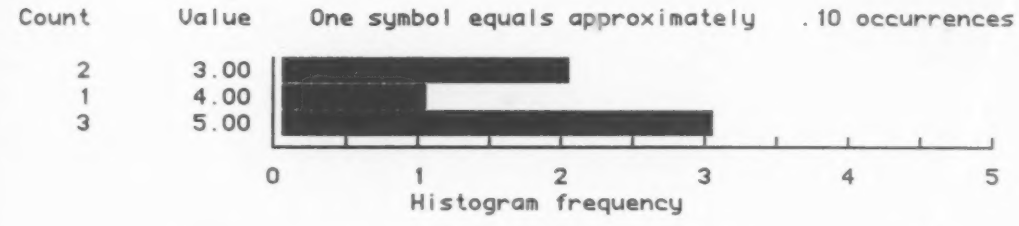
Mean	4.333	Std err	.333	Median	4.500
Mode	5.000	Std dev	.816	Variance	.667
Kurtosis	-.300	S E Kurt	1.741	Skewness	-.857
S E Skew	.845	Range	2.000	Minimum	3.000
Maximum	5.000	Sum	26.000		

Valid cases 6 Missing cases 1

BEST COPY AVAILABLE

E13

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
NEUTRAL	3	2	28.6	33.3	33.3
	4	1	14.3	16.7	50.0
ENJOYED IT A LOT	5	3	42.9	50.0	100.0
	.	1	14.3	Missing	
	Total	7	100.0	100.0	



Mean	4.167	Std err	.401	Median	4.500
Mode	5.000	Std dev	.983	Variance	.967
Kurtosis	-2.390	S E Kurt	1.741	Skewness	-.456
S E Skew	.845	Range	2.000	Minimum	3.000
Maximum	5.000	Sum	25.000		

Valid cases 6 Missing cases 1

BEST COPY AVAILABLE

E14

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
NEUTRAL	3	2	28.6	33.3	33.3
	4	2	28.6	33.3	66.7
ENJOYED IT A LOT	5	2	28.6	33.3	100.0
	.	1	14.3	Missing	
	Total	7	100.0	100.0	

Count	Value	One symbol equals approximately .10 occurrences
2	3.00	
2	4.00	
2	5.00	

Histogram frequency

Mean	4.000	Std err	.365	Median	4.000
Mode	3.000	Std dev	.894	Variance	.800
Kurtosis	-1.875	S E Kurt	1.741	Skewness	.000
S E Skew	.845	Range	2.000	Minimum	3.000
Maximum	5.000	Sum	24.000		

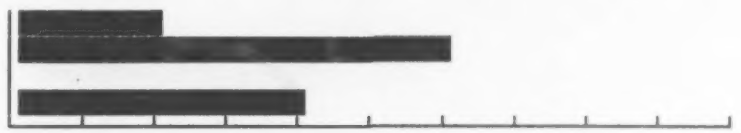
Valid cases 6 Missing cases 1

BEST COPY AVAILABLE

E15

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	2	1	14.3	16.7	16.7
NEUTRAL	3	3	42.9	50.0	66.7
ENJOYED IT A LOT	5	2	28.6	33.3	100.0
	.	1	14.3	Missing	
	Total	7	100.0	100.0	

Count	Value	One symbol equals approximately .10 occurrences
1	2.00	
3	3.00	
0	4.00	
2	5.00	



Histogram frequency

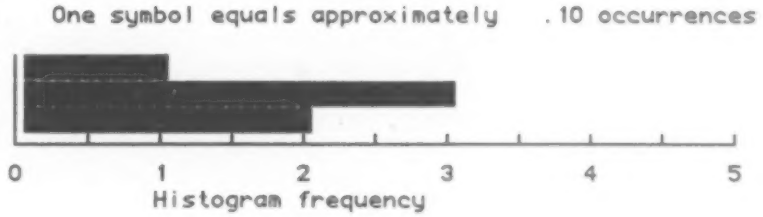
Mean	3.500	Std err	.500	Median	3.000
Mode	3.000	Std dev	1.225	Variance	1.500
Kurtosis	-1.467	S E Kurt	1.741	Skewness	.490
S E Skew	.845	Range	3.000	Minimum	2.000
Maximum	5.000	Sum	21.000		

Valid cases 6 Missing cases 1

BEST COPY AVAILABLE

E16

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
NEUTRAL	3	1	14.3	16.7	16.7
	4	3	42.9	50.0	66.7
ENJOYED IT A LOT	5	2	28.6	33.3	100.0
	.	1	14.3	Missing	
	Total	7	100.0	100.0	



Mean	4.167	Std err	.307	Median	4.000
Mode	4.000	Std dev	.753	Variance	.567
Kurtosis	-.104	S E Kurt	1.741	Skewness	-.313
S E Skew	.845	Range	2.000	Minimum	3.000
Maximum	5.000	Sum	25.000		

Valid cases 6 Missing cases 1

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E17

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
NEUTRAL	3	1	14.3	16.7	16.7
	4	3	42.9	50.0	66.7
ENJOYED IT A LOT	5	2	28.6	33.3	100.0
	.	1	14.3	Missing	
	Total	7	100.0	100.0	

Count Value One symbol equals approximately .10 occurrences

1 3.00
3 4.00
2 5.00

Histogram frequency

Mean	4.167	Std err	.307	Median	4.000
Mode	4.000	Std dev	.753	Variance	.567
Kurtosis	-.104	S E Kurt	1.741	Skewness	-.313
S E Skew	.845	Range	2.000	Minimum	3.000
Maximum	5.000	Sum	25.000		

Valid cases 6 Missing cases 1

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E18

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	4	1	14.3	16.7	16.7
ENJOYED IT A LOT	5	5	71.4	83.3	100.0
	.	1	14.3	Missing	
	Total	7	100.0	100.0	

Count	Value	One symbol equals approximately .10 occurrences
1	4.00	
5	5.00	

Histogram frequency

Mean	4.833	Std err	.167	Median	5.000
Mode	5.000	Std dev	.408	Variance	.167
Kurtosis	6.000	S E Kurt	1.741	Skewness	-2.449
S E Skew	.845	Range	1.000	Minimum	4.000
Maximum	5.000	Sum	29.000		

Valid cases 6 Missing cases 1

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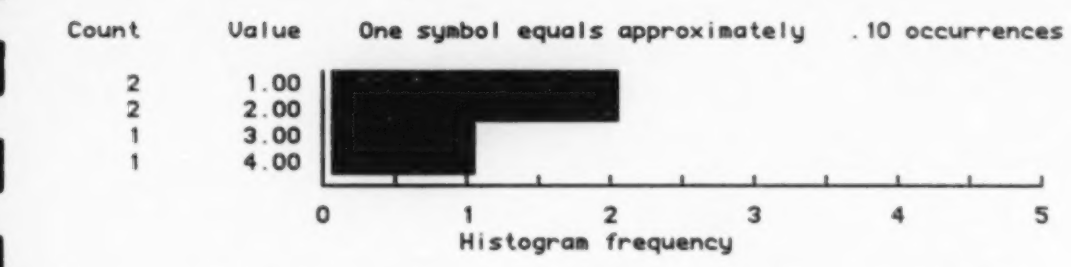
E19

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
HATED IT	1	2	28.6	33.3	33.3
	2	2	28.6	33.3	66.7
NEUTRAL	3	1	14.3	16.7	83.3
	4	1	14.3	16.7	100.0
	.	1	14.3	Missing	
	Total	7	100.0	100.0	



Mean	2.167	Std err	.477	Median	2.000
Mode	1.000	Std dev	1.169	Variance	1.367
Kurtosis	-.446	S E Kurt	1.741	Skewness	.668
S E Skew	.845	Range	3.000	Minimum	1.000
Maximum	4.000	Sum	13.000		

Valid cases 6 Missing cases 1

E20

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
NEUTRAL	3	1	14.3	16.7	16.7
	4	2	28.6	33.3	50.0
ENJOYED IT A LOT	5	3	42.9	50.0	100.0
	.	1	14.3	Missing	
	Total	7	100.0	100.0	

Count Value One symbol equals approximately .10 occurrences

1 3.00
2 4.00
3 5.00

Histogram frequency

Mean	4.333	Std err	.333	Median	4.500
Mode	5.000	Std dev	.816	Variance	.667
Kurtosis	-.300	S E Kurt	1.741	Skewness	-.857
S E Skew	.845	Range	2.000	Minimum	3.000
Maximum	5.000	Sum	26.000		

Valid cases 6 Missing cases 1

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